ORDER NO. SD81092041C4

Service Manual

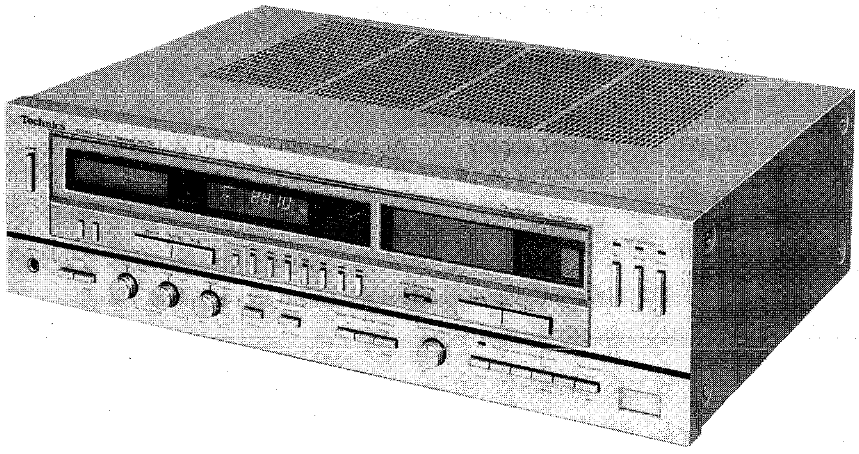
FM/AM Stereo Receiver

SA-727

[PA], [PE], [PC]

SA-727(K)

[PC]



*The cabinet and front panel are available in black color and silver types.
*The black type model is provided with (K) in the Service Manual.

Areas

- * [PA] is available in far East PX.
- * [PE] is available in European Military.
- * [PC] is available in European Audio Club.

Specifications

(Specifications are subject to change without notice for further improvement.)

(IHF '78)

■ AMPLIFIER SECTION

Rated minimum sine wave RMS power output
20 Hz~20 kHz both channels driven
0.005% total harmonic distortion
100W per channel (8 ohms)

1 kHz continuous power output	
both channels driven	
0.001% total harmonic distortion	105W per channel (8 ohms)
Dynamic headroom	1.8 dB (8 ohms)
Total harmonic distortion	
rated power at 20 Hz~20 kHz	0.005% (8 ohms)
half power at 20 Hz~20 kHz	0.005% (8 ohms)
half power at 1 kHz	0.001% (8 ohms)
SMPTE intermodulation distortion	0.01% (8 ohms)
Frequency response	
PHONO	RIAA standard curve ±0.2 dB
AUX, TAPE	5 Hz~100 kHz, −3 dB
	20 Hz~20 kHz, +0.2 dB, −0.2 dB
Input sensitivity	
PHONO	0.25 mV (2.5 mV, IHF '66)
AUX, TAPE 1, 2	15 mV (150 mV, IHF '66)
S/N (IHF, A)	
PHONO	78 dB (87 dB, IHF '66)
AUX, TAPE	80 dB (100 dB, IHF '66)
Maximum input voltage	
PHONO	145 mV (160 mV, 1 kHz)
Input impedance	
PHONO	47 kilohms
AUX, TAPE 1, 2	22 kilohms
Tone controls	
BASS	50 Hz, +10 dB~ −10 dB
TREBLE	20 kHz, +10 dB~ −10 dB
Subsonic filter	30 Hz, −6 dB/oct.
High filter	7 kHz, −6 dB/oct.
Loudness control (volume at −30 dB)	50 Hz, +9 dB
Muting	−20 dB
Output voltage	
TAPE 1, 2 REC OUT	150 mV
Low frequency damping factor	40 (8 ohms)
Load impedance	
MAIN or REMOTE	8~16 ohms

■ FM TUNER SECTION

Frequency range	87.9~107.9 MHz (0.2 MHz step)
	87.50~108.00 MHz (0.05 MHz step)
Sensitivity	10.8 dBf (1.9 μV, IHF '58)
50 dB quieting sensitivity	
MONO	13.7 dBf (2.7 μV IHF '58)
STEREO	37.2 dBf (39.7 μV IHF '58)
Total harmonic distortion	
100 Hz	0.08% (MONO), 0.15% (STEREO)
1 kHz	0.08% (MONO), 0.1% (STEREO)
6 kHz	0.2% (MONO), 0.2% (STEREO)

Technics

Panasonic Tokyo
Matsushita Electric Industrial Co., Ltd.
1-2, 1-chome, Shiba-koen, Minato-ku, Tokyo 105 Japan

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

S/N	
MONO	77 dB
STEREO	71 dB
Frequency response	20 Hz~15 kHz, +0.2 dB, −0.8 dB
Alternate channel selectivity	75 dB
Capture ratio	1.2 dB
Image rejection at 98 MHz	80 dB
IF rejection at 98 MHz	90 dB
Spurious response rejection at 98 MHz	100 dB
AM suppression	60 dB
Stereo separation	
1 kHz	45 dB
10 kHz	40 dB
Carrier leak	
19 kHz	−65 dB
38 kHz	−70 dB
Antenna terminals	300 ohms (balanced) 75 ohms (unbalanced)

■ AM TUNER SECTION

Frequency range	530~1620 kHz (10 kHz step) 522~1611 kHz (9 kHz step)
Sensitivity	30 μV, 250 μV/m
Selectivity	55 dB
Image rejection at 1000 kHz	50 dB
IF rejection at 1000 kHz	40 dB

■ GENERAL

Power consumption	540W
Power supply	AC 50 Hz/60 Hz, 110 V/120 V/220 V/240 V
Dimensions (W×H×D)	530 × 161 × 388 mm (20-7/8" × 6-11/32" × 15-9/32")
Weight	15 kg (33.1 lb.)

Weights and dimensions shown are approximate.

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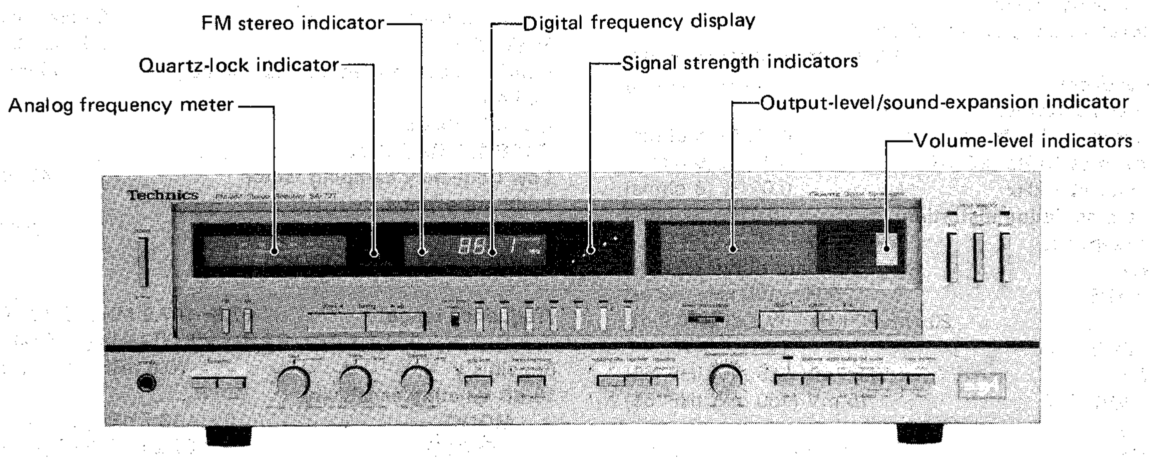
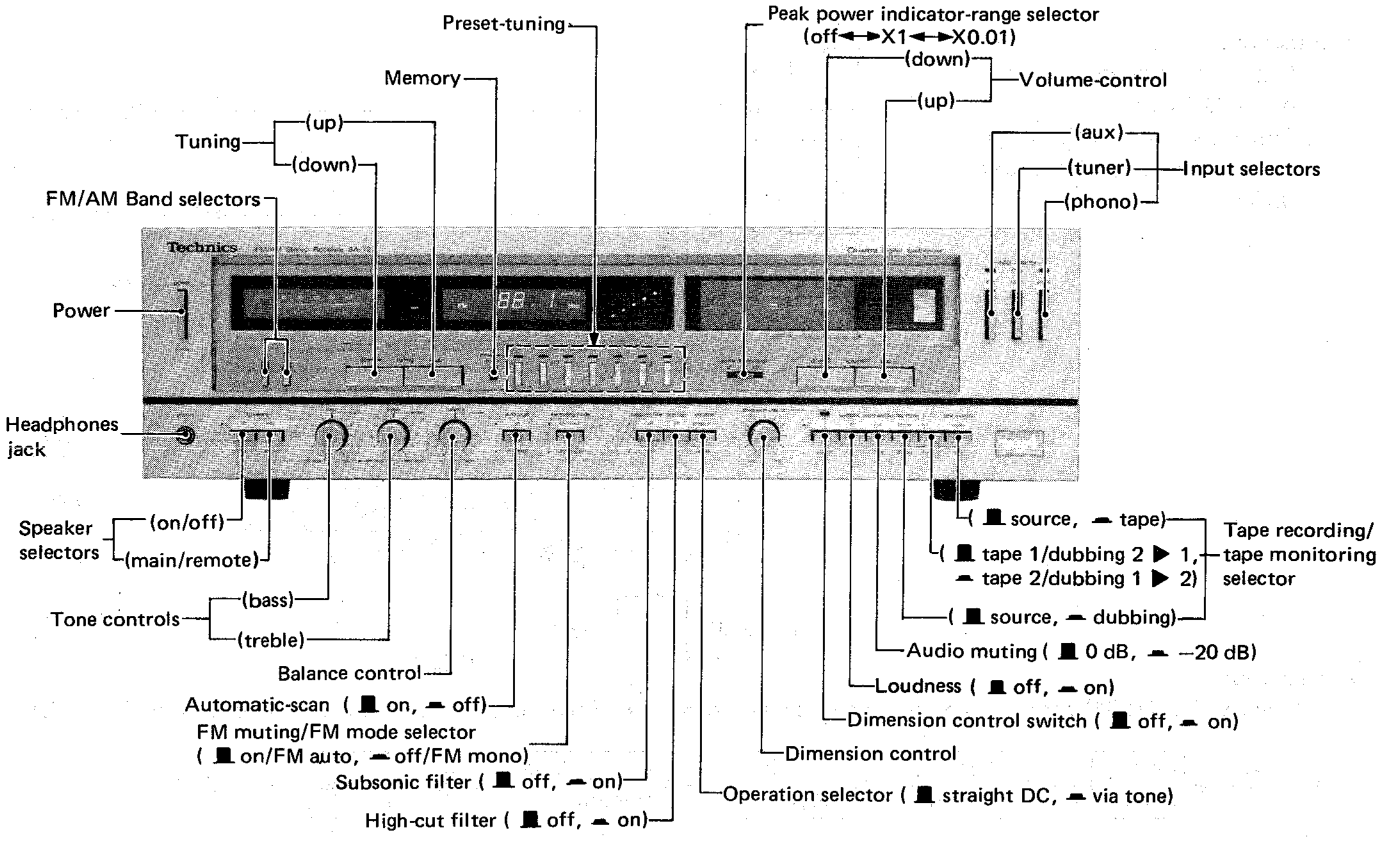
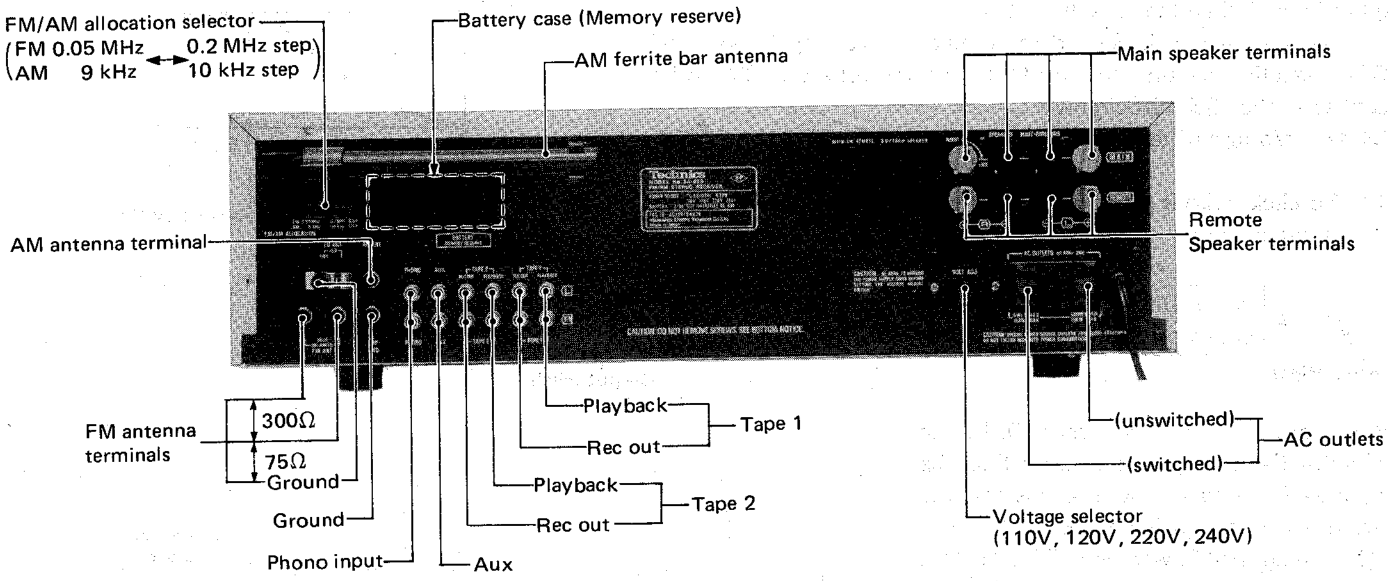
■ LOCATION OF CONTROLS


FM stereo indicator
Digital frequency display
Quartz-lock indicator
Signal strength indicators
Analog frequency meter
Output-level/sound-expansion indicator
Volume-level indicators
Technics

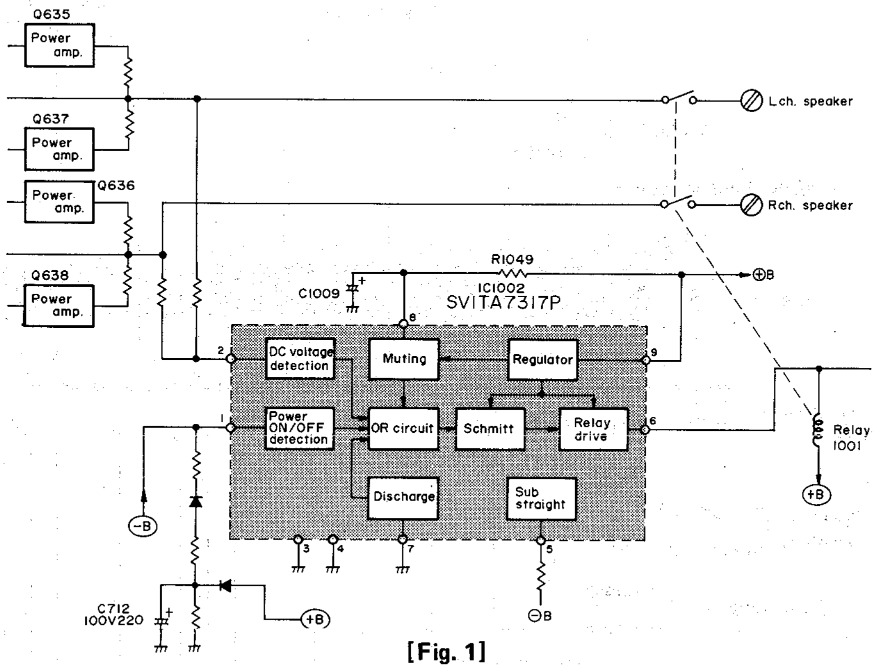

Preset-tuning
Memory
Peak power indicator-range selector (off◄►X1◄►X0.01)
(down)
Volume-control
(up)
Tuning
(up)
(down)
(aux)
(tuner)
Input selectors
(phono)
FM/AM Band selectors
Power
Headphones jack
Speaker selectors
(on/off)
(main/remote)
Tone controls
(bass)
(treble)
Balance control
Automatic-scan (■ on, ▬ off)
FM muting/FM mode selector (■ on/FM auto, ▬ off/FM mono)
Subsonic filter (■ off, ▬ on)
High-cut filter (■ off, ▬ on)
(■ source, ▬ tape)
(■ tape 1/dubbing 2 ▶ 1, ▬ tape 2/dubbing 1 ▶ 2)
Tape recording/ tape monitoring selector
(■ source, ▬ dubbing)
Audio muting (■ 0 dB, ▬ −20 dB)
Loudness (■ off, ▬ on)
Dimension control switch (■ off, ▬ on)
Dimension control
Operation selector (■ straight DC, ▬ via tone)


FM/AM allocation selector
(FM 0.05 MHz ◄► 0.2 MHz step)
(AM 9 kHz ◄► 10 kHz step)
Battery case (Memory reserve)
AM ferrite bar antenna
Main speaker terminals
AM antenna terminal
Remote Speaker terminals
FM antenna terminals
300Ω
75Ω
Ground
Ground
Phono input
Aux
Playback
Rec out
Tape 1
Playback
Rec out
Tape 2
(unswitched)
(switched)
AC outlets
Voltage selector (110V, 120V, 220V, 240V)

■ TECHNICAL GUIDES

1. DESCRIPTION OF MUTING/RELAY DRIVE IC (SVITA7317P)

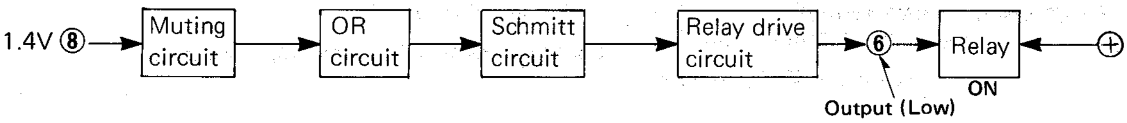
- **Functions**
  1. Click noise prevention during power ON/OFF.
  2. Protection of speakers and power transistors from breakdown.


Q635
Power amp.
Q637
Power amp.
Power amp.
Q636
Q638
Power amp.
Lch. speaker
Rch. speaker
R1049
⊕B
C1009
IC1002
SVITA7317P
DC voltage detection
Muting
Regulator
Power ON/OFF detection
OR circuit
Schmitt
Relay drive
Discharge
Sub straight
Relay 1001
⊕B
⊖B
⊖B
C712
100V220
⊕B
1
2
3
4
5
6
7
8
9

[Fig. 1]

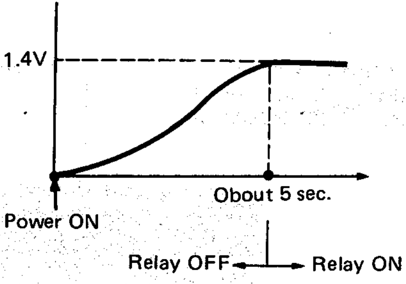
- **Operation**

1-1 Relay (RLY1001) turns ON about 5 seconds after power ON. Therefore, no click noise is produced from the speaker.


1.4V ⑧
Muting circuit
OR circuit
Schmitt circuit
Relay drive circuit
⑥
Output (Low)
Relay
ON
⊕ V

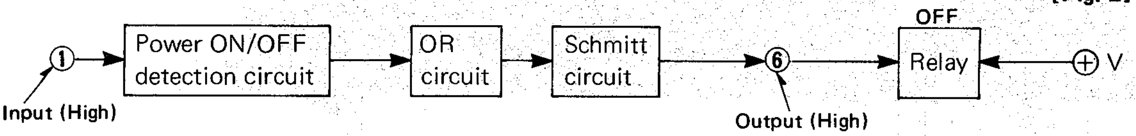
- About 5 seconds after power ON, about 1.4V is applied to terminal ⑧. This voltage is applied to "OR circuit", turning the "Schmitt circuit" ON, "Relay drive circuit" ON, and the voltage of terminal ⑥ to "Low", then the relay turns ON.
  At that time, –0.7V is applied to terminal ①, causing "power ON/OFF detection circuit" to turn OFF, and the voltage (1.3V) to be applied to the "Schmitt circuit".
  (Note) Voltage of terminal ⑧ is determined by R1049 and C1009.

(Complete charge characteristic curve)



[Fig. 2]

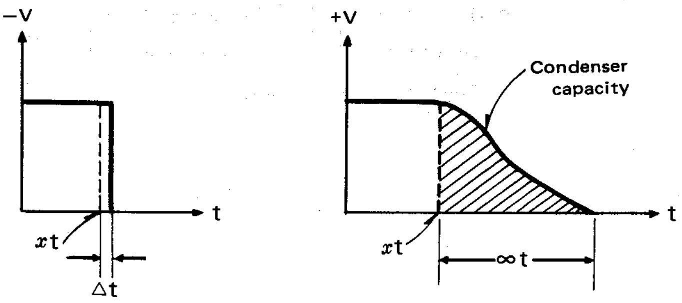
1-2 No click noise is produced from the speaker when power supply is turned OFF.


①
Input (High)
Power ON/OFF detection circuit
OR circuit
Schmitt circuit
⑥
Output (High)
OFF
Relay
⊕ V

- When power supply is turned OFF, the negative (–) voltage drops faster than the positive (+) voltage. At that instant, the positive (+) voltage is applied to terminal ①, turning the "Power ON/OFF detection circuit" ON, "OR circuit" OFF, "Schmitt circuit" ON, "Relay drive circuit" OFF, and the voltage of terminal ⑥ to "High", than the relay turns OFF.

xt: power switch OFF-time
△t: negative (–) voltage drop time
∞t: positive (+) voltage drop time

△t < ∞t



(Voltage drop time comparison)

[Fig. 3]

1-3 Difference in drop speed between negative and positive voltages

- No condenser is located on the negative (–) side, while a condenser (100V, 220μF) is on the positive (+) side. Therefore, the voltage drop speed is faster on the negative (–) side.

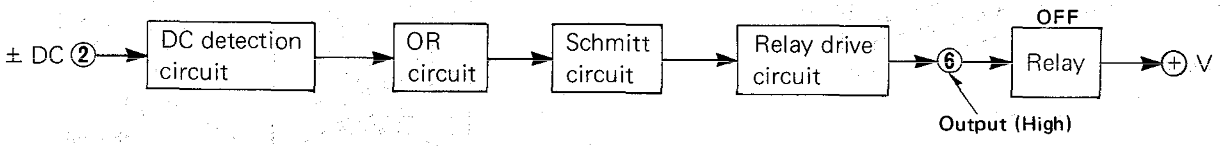
2-1 Protection of power transistor in case of speaker terminal short-circuit

When DC voltage is applied to terminal ② due to shortcircuit of L ch. speaker terminals, the "DC detection circuit" turns ON, "OR circuit" OFF, "Schmitt circuit" ON, "Relay drive circuit" OFF, and the voltage of terminal ⑥ to "High", then the relay turns OFF, thus protecting the power transistor.

Note: The same holds true for shortcircuit of R ch. speaker terminals.

2-2. It protects the speakers when main amplifier becomes defective

When DC voltage is applied to terminal ② due to main amplifier trouble, the "DC detection circuit" turns ON, "OR circuit" turns OFF, "Schmitt circuit" ON, "Relay drive circuit" OFF, and the voltage of terminal ⑥ to "High", then the relay turns OFF, thus protecting the speakers.

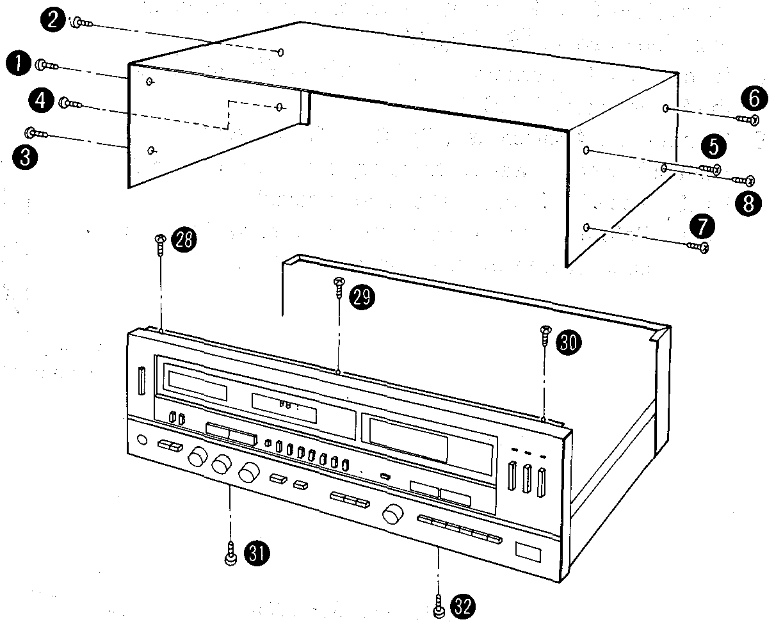

± DC ②
DC detection circuit
OR circuit
Schmitt circuit
Relay drive circuit
⑥
OFF
Relay
⊕V
Output (High)

■ DISASSEMBLY INSTRUCTIONS

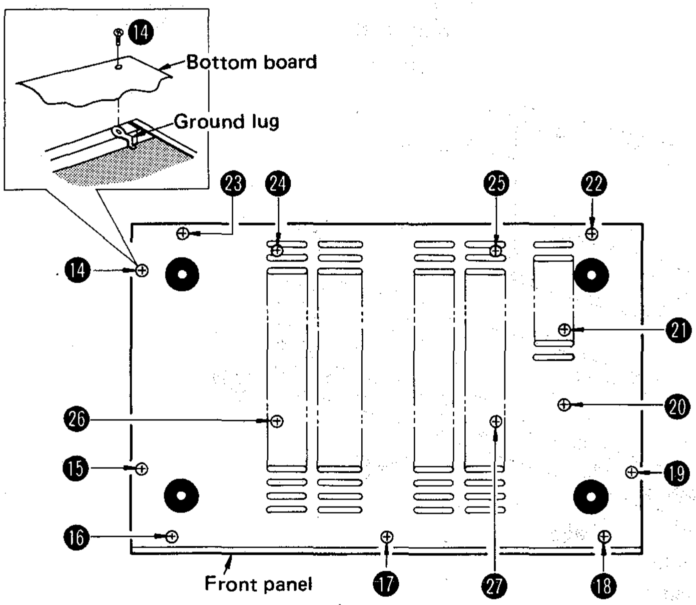
• How to remove the front panel

1. Remove the 8 setscrews (Fig. 4 : ❶ ~ ❽) on the side and 5 setscrews (Fig. 6 : ❾ ~ ⓭) on the back of the cabinet.
2. Remove the cabinet.
3. Remove the 14 setscrews (Fig. 5 : ⓮ ~ ㉗) of the bottom board.
4. Remove the bottom board.

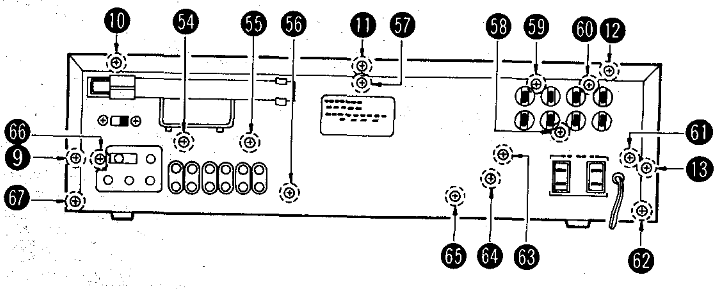
Note: When installing the bottom board, place the ground lug between the bottom board and side chassis before tightening the setscrew ⓮.


❷
❶
❹
❸
❻
❺
❽
❼
㉘
㉙
㉚
㉛
㉜

[Fig. 4]

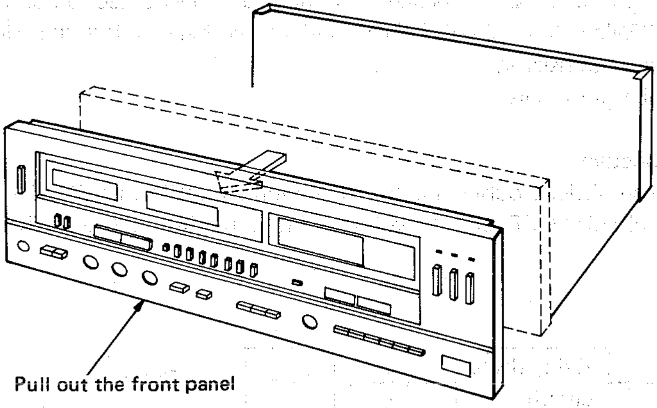

⓮
Bottom board
Ground lug
㉓
㉔
㉕
㉒
⓮
㉑
㉖
⑳
⓯
⓳
⓰
Front panel
⓱
㉗
⓲

[Fig. 5]

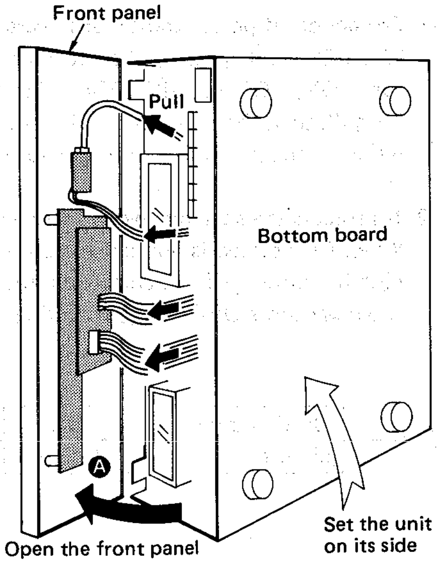

❿
(54)
(55)
(56)
⓫
(57)
(58)
(59)
(60)
⓬
(66)
❾
(67)
(61)
⓭
(65)
(64)
(63)
(62)

[Fig. 6]

5. Remove the 5 setscrews (Fig. 4 : ㉘ ~ ㉜) of the front panel.
6. Pull out the front panel toward you. (See Fig. 7) Next, pull the lead connected to the front panel to open the front panel in the direction of arrow Ⓐ. (See Fig. 8).


Pull out the front panel

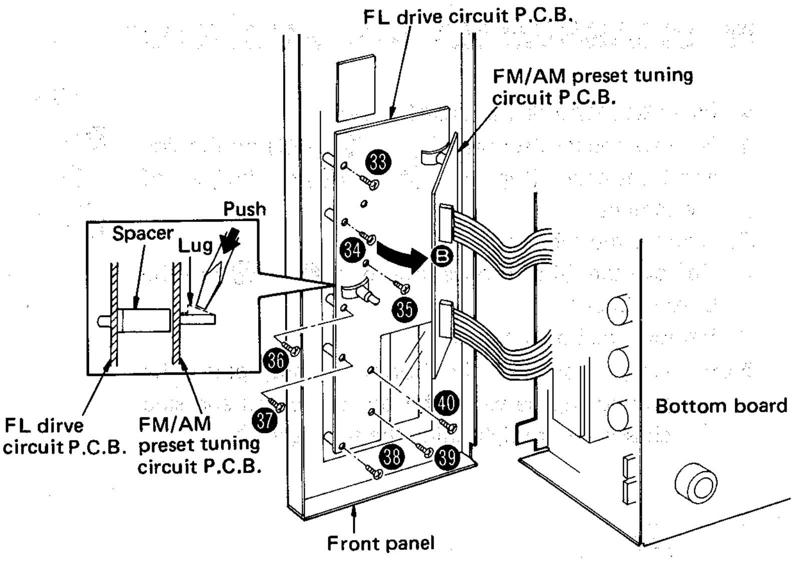
[Fig. 7]


Front panel
Pull
Bottom board
Ⓐ
Open the front panel
Set the unit on its side

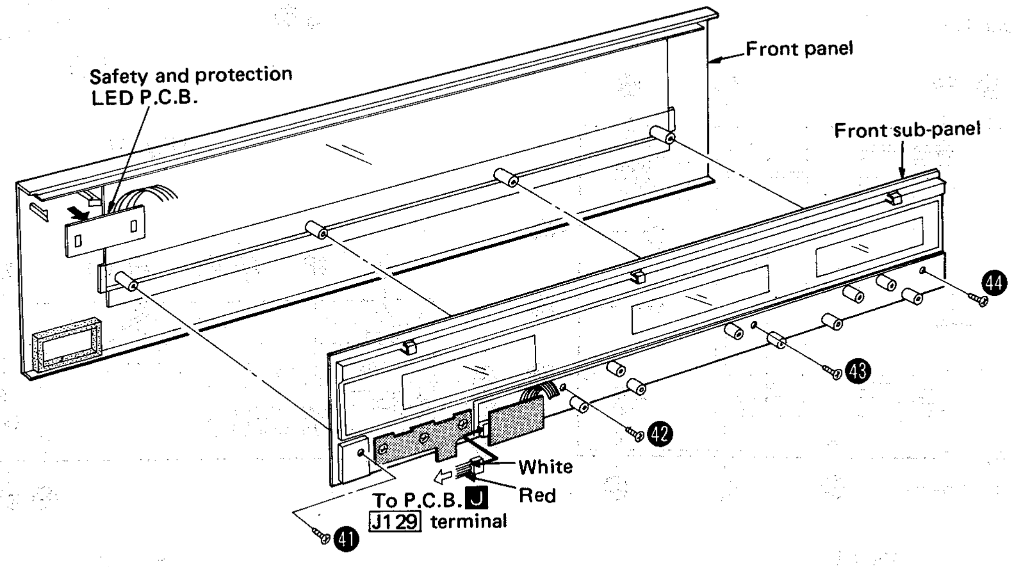
[Fig. 8]

7. Push the spacer claw which serves the FM/AM preset tuning circuit P.C.B. by using a screwdriver in order to remove the FM/AM preset tuning circuit P.C.B. in the direction of arrow Ⓑ. (Fig. 9)
8. Remove the 8 setscrews (Fig. 9 : ㉝ ~ ㊵) to detach the FL drive circuit P.C.B.
9. Remove the 4 setscrews (Fig. 10 : ㊶ ~ ㊹) of the front sub-panel as well as the safety and protection LED P.C.B. Then the front panel can be removed.

Note: Before installing the front panel, stow the leads connected to the front panel into the set.


FL drive circuit P.C.B.
FM/AM preset tuning circuit P.C.B.
Push
Spacer
Lug
㉝
㉞
Ⓑ
㉟
㊱
㊲
㊳
㊴
㊵
FL dirve circuit P.C.B.
FM/AM preset tuning circuit P.C.B.
Bottom board
Front panel

[Fig. 9]

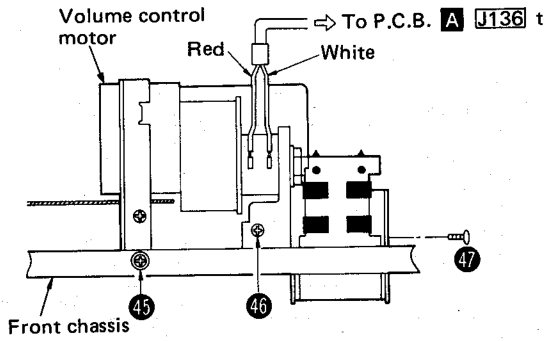

Safety and protection LED P.C.B.
Front panel
Front sub-panel
㊹
㊸
㊷
White
Red
To P.C.B. J
J129 terminal
㊶

[Fig. 10]

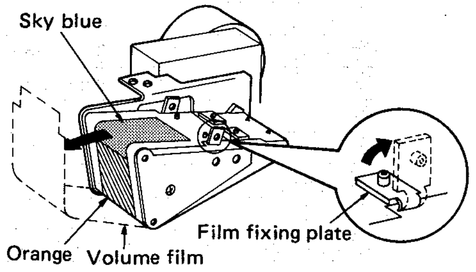
• How to remove the volume control motor

1. Remove the cabinet.
2. Remove the 3 setscrews (Fig. 11 : ㊺ ~ ㊼) of the volume control motor.
3. Remove the film fixing plate and detach the volume film. (See Fig. 12)
4. Pull out the volume gear and remove the nut (Fig. 13 : ㊽). Then the volume control motor can be removed.

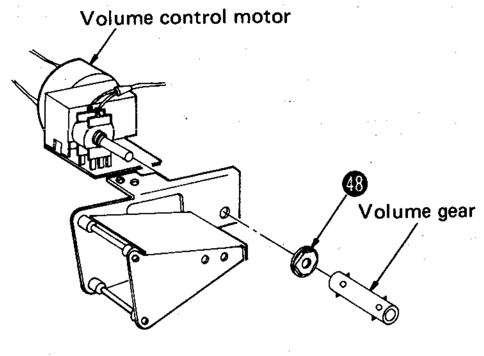
Note: When mounting the volume film, completely rotate the volume control motor clockwise and set the initial hole of the volume film onto the volume gear and secure it with the film fixing plate. (See Fig. 14)


Volume control motor
Red
White
⇨ To P.C.B. A J136 terminal
㊼
Front chassis
㊺
㊻

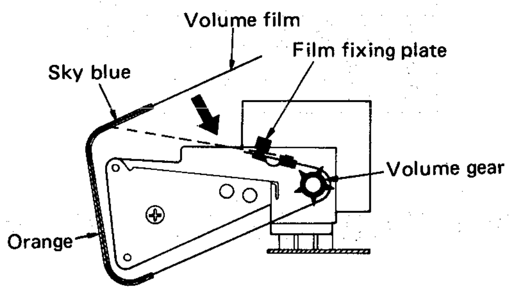
[Fig. 11]


Sky blue
Orange
Volume film
Film fixing plate

[Fig. 12]


Volume control motor
㊽
Volume gear

[Fig. 13]

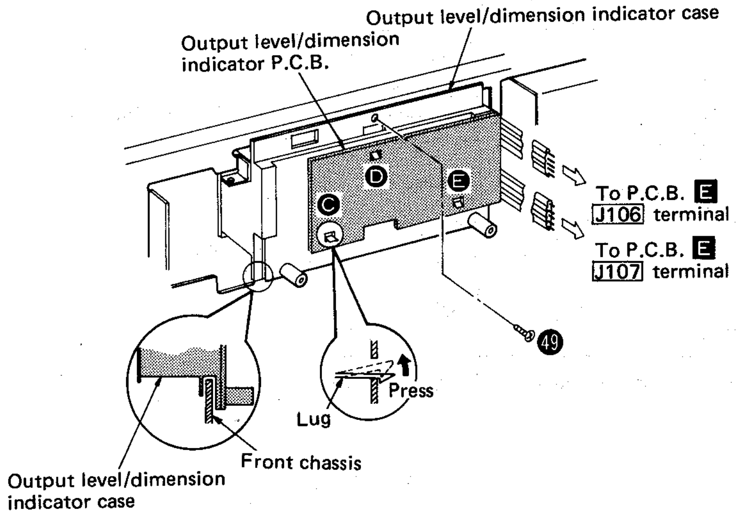

Volume film
Film fixing plate
Sky blue
Volume gear
Orange

[Fig. 14]

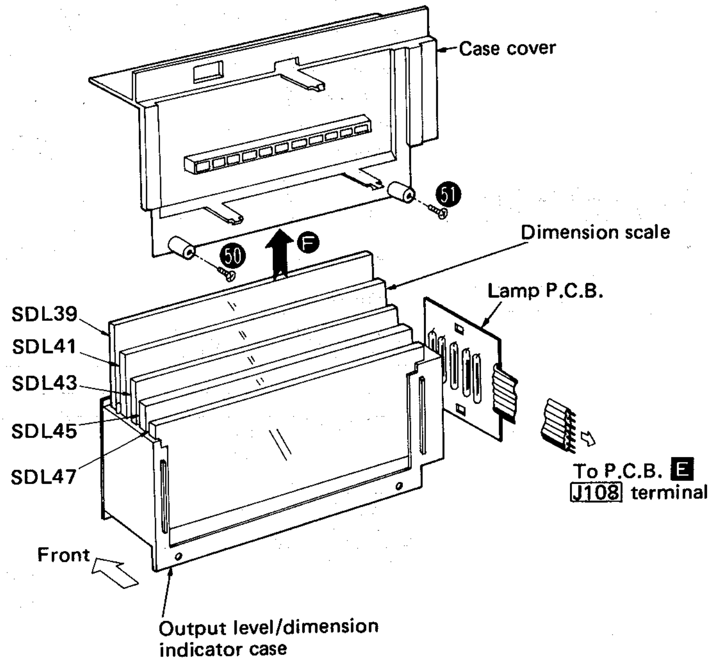
• How to remove the output level/dimension indicator printed circuit board

1. Remove the cabinet.
2. Remove the setscrew (Fig. 15 : ㊾) and release the 3 Lugs (Fig. 15 : Ⓒ ~ Ⓔ) from the output level/dimension indicator case. Then the indicator case can be removed.
3. To detach the dimension scale, remove the 2 setscrews (Fig. 16 : ㊿ , (51)) to remove the case cover in the direction of arrow Ⓕ. Then the dimension scale can be detached.

Note: Before installing the output level/dimension indicator case, make sure that the groove of the output level/dimension indicator case is fitted in the front chassis. (See Fig. 15)


Output level/dimension indicator case
Output level/dimension indicator P.C.B.
Ⓓ
Ⓔ
Ⓒ
To P.C.B. E J106 terminal
To P.C.B. E J107 terminal
㊾
Press
Lug
Front chassis
Output level/dimension indicator case

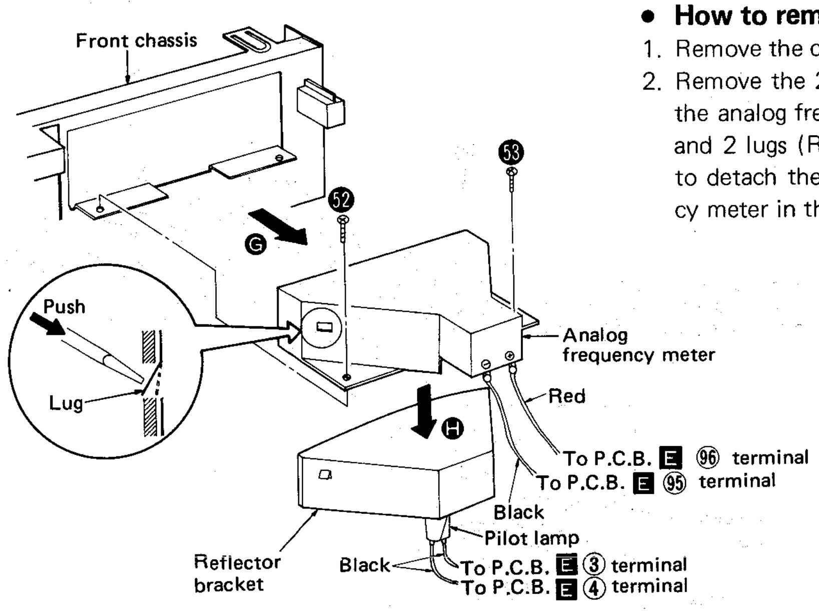
[Fig. 15]


Case cover
(51)
㊿
Ⓕ
Dimension scale
Lamp P.C.B.
SDL39
SDL41
SDL43
SDL45
SDL47
To P.C.B. E J108 terminal
Front
Output level/dimension indicator case

[Fig. 16]

• How to remove the analog frequency meter

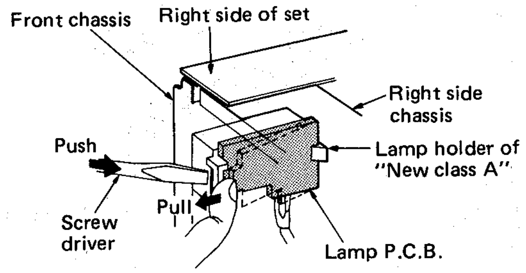
1. Remove the cabinet.
2. Remove the 2 setscrews (Fig. 17 : (52) , (53)) to detach the analog frequency meter in the direction of arrow Ⓖ, and 2 lugs (Reflector bracket on the right and left sides) to detach the reflector bracket from the analog frequency meter in the direction of arrow Ⓗ.


Front chassis
(53)
(52)
Ⓖ
Push
Lug
Analog frequency meter
Red
Ⓗ
To P.C.B. E (96) terminal
To P.C.B. E (95) terminal
Black
Pilot lamp
Reflector bracket
Black
To P.C.B. E ③ terminal
To P.C.B. E ④ terminal

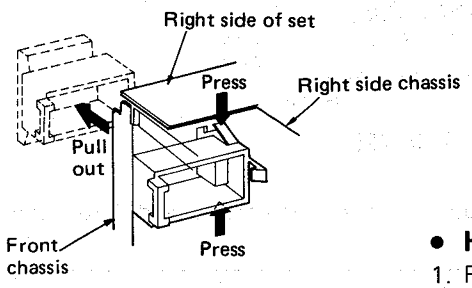
[Fig. 17]

• How to check the speaker proteciton P.C.B.

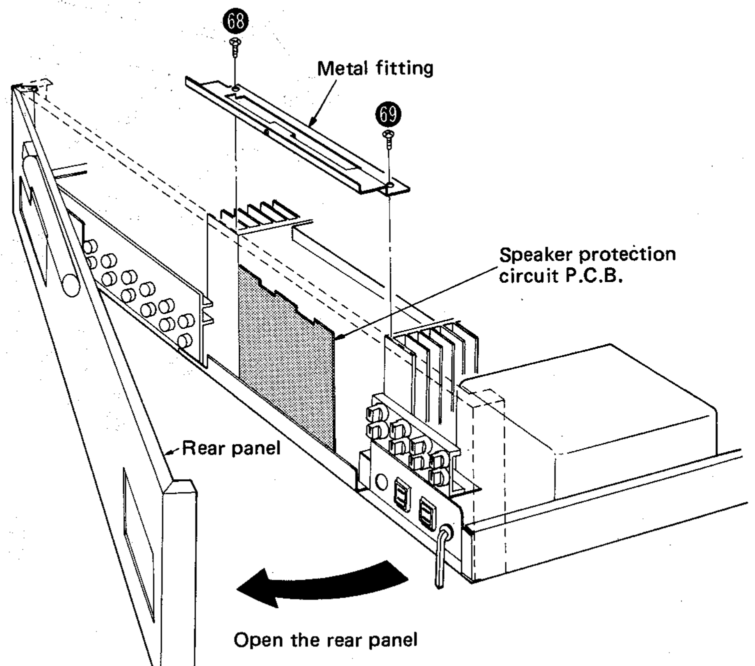
1. Remove the cabinet.
2. Remove the 14 setscrews (Fig. 6 : (54) ~ (67)) of the rear panel.
3. Remove the 2 setscrews (Fig. 18 : (68) , (69)) to release the metal fitting. Next, open the rear panel in the direction of the arrow so that the speaker protection P.C.B. can be checked. (See Fig. 18)


Front chassis
Right side of set
Right side chassis
Push
Lamp holder of "New class A"
Pull
Screw driver
Lamp P.C.B.

[Fig. 19]


Right side of set
Press
Right side chassis
Pull out
Front chassis
Press

[Fig. 20]


(68)
Metal fitting
(69)
Speaker protection circuit P.C.B.
Rear panel
Open the rear panel

[Fig. 18]

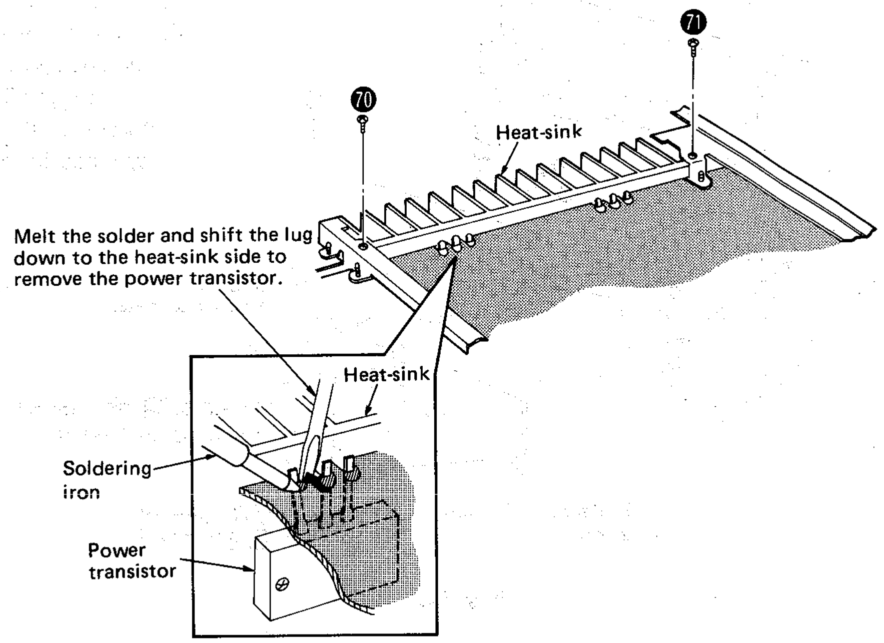
• How to remove the lamp holder of "New Class A"

1. Remove the cabinet.
2. Remove the front panel and bottom board. (Refer to "How to remove the front panel".)
3. Pull the lamp holder with fingers and remove the lamp P.C.B. by using a screwdriver. (See Fig. 19)
4. Press the lugs and pull out the part from the chassis to provide easy access for a screwdriver. (See Fig. 20)

- **How to remove the power transistor**

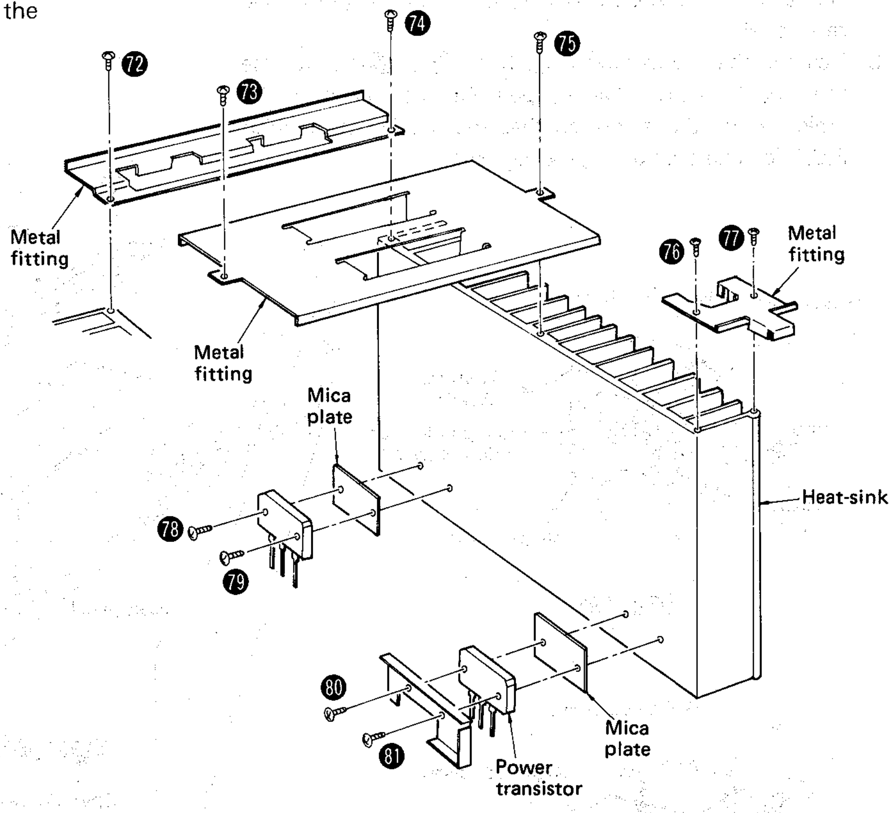
(Example : Left channel)

1. Remove the bottom board.
2. Unsolder the power transistor as shown in Fig. 21.
3. Remove the 2 setscrews (Fig. 21 : (70), (71)) of the heat sink.
4. Remove the cabinet.
5. Remove the 7 setscrews (Fig. 6 : (57) and Fig. 22 : (72) ~ (77)) of the 3 metal fitting. Then the 3 metal fitting can be removed.
6. Remove the transistor along with the heat-sink from the printed circuit board.
7. Remove the 4 setscrews (Fig. 22 : (78) ~ (81)) used to secure the power transistors on the heat-sink, and then pull out the power transistor.
8. When installing the power transistor, apply heat diffusing agent (silicon powder,etc.) to both sides of the mica plate, and secure it on the heat-sink with setscrews. Next, secure the heat-sink on the chassis and then solder the power transistor.


(71)
(70)
Heat-sink
Heat-sink
Soldering iron
Power transistor

Melt the solder and shift the lug down to the heat-sink side to remove the power transistor.

[Fig. 21]


(72)
(73)
(74)
(75)
Metal fitting
Metal fitting
(76)
(77)
Metal fitting
Mica plate
Heat-sink
(78)
(79)
(80)
(81)
Mica plate
Power transistor

[Fig. 22]

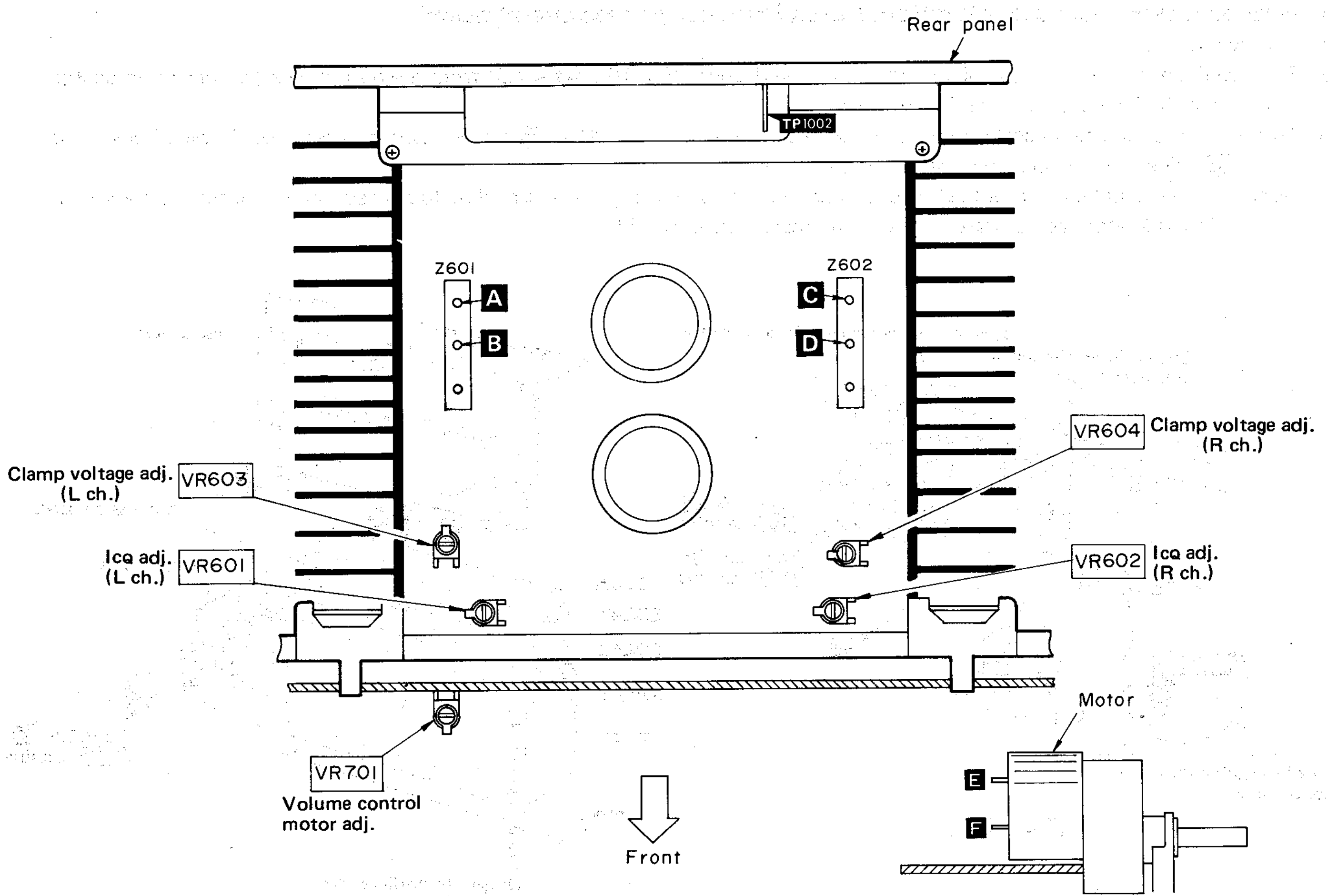
* Since standardized parts are mentioned in the parts list, they are sometimes different in Part No. and Color from the product parts.

Screw No.	Type	Color	Product Part No.	Figure No.
① ~ ⑧	⊕ 4 x 8 mm, Tapping	Silver	XTB4+8BFN	Fig. 4
⑨ ~ ⑬	⊕ 3 x 8 mm, Tapping	Silver	XTB3+8BFN	Fig. 6
⑭ ~ ㉗	⊕ 3 x 10 mm, Tapping (With plain washer)	Red	XTW3+10HFYR	Fig. 5
㉘ ~ ㉜	⊕ 3 x 8 mm, Tapping	Black	XTB3+8BFZ	Fig. 4

Screw No.	Type	Color	Product Part No.	Figure No.
㉝ ~ ㊵	⊕ 3 x 10 mm, Tapping	Gold	XTB3+10B	Fig. 9
㊶ ~ ㊹	⊕ 3 x 10 mm, Tapping (With plain washer)	Gold	XTW3+10H	Fig. 10
㊺ , ㊻	⊕ 3 x 6 mm, Tapping	Gold	XTB3+6B	Fig. 11
㊼	⊕ 3 x 10 mm, Tapping	Gold	XTW3+10H	Fig. 11
㊾	⊕ 3 x 8 mm, Tapping	Gold	XTB3+8B	Fig. 15
㊿ , (51)	⊕ 3 x 10 mm, Tapping	Gold	XTB3+10BFZ	Fig. 16
(52) , (53)	⊕ 3 x 10 mm, Tapping (With plain washer)	Gold	XTW3+10H	Fig. 17
(54) , (55) , (58) ~ (60)	⊕ 3 x 10 mm, Tapping	Black	XTB3+10BFZ	Fig. 6
(56) , (61) ~ (67)	⊕ 3 x 8 mm, Tapping	Black	XTB3+8BFZ	Fig. 6
(57)	⊕ 3 x 8 mm, Tapping	Black	XTB3+8BFZ	Fig. 6
(68) , (69)	⊕ 3 x 10 mm, Tapping	Black	XTB3+10BFZ	Fig. 18
(70) , (71)	⊕ 3 x 10 mm, Tapping	Black	XTB3+10BFZ	Fig. 21
(72) , (74) , (76) , (77)	⊕ 3 x 10 mm, Tapping	Gold	XTB3+10B	Fig. 22
(73) , (75)	⊕ 3 x 10 mm, Tapping	Black	XTB3+10BFZ	Fig. 22
(78) ~ (81)	⊕ 3 x 12 mm, Tapping (With plain washer)	Gold	XTWS3+12L1	Fig. 22

■ MEASUREMENTS AND ADJUSTMENTS

• Adjustment points (amplifier and volume motor control section)


Rear panel
TP1002
Z601
A
B
Z602
C
D
VR604 Clamp voltage adj. (R ch.)
Clamp voltage adj. (L ch.) VR603
Icq adj. (L ch.) VR601
VR602 Icq adj. (R ch.)
Motor
E
F
VR701 Volume control motor adj.
Front

AMPLIFIER ADJUSTMENT

*** Setting of controls and instruments to be used.**

* Before the adjustment, VR601, VR602, VR603 and VR604 should be turned to counter-clockwise direction.

1. Main speaker switch . . . . .off
2. Remote speaker switch . . . . . .off
3. Sound volume. . . . . .0 (minimum)
4. DC voltmeter (capable to reasure 5 mV)
5. Operation selector . . . . .straight DC
6. Dimension on/off switch. . . . . .off

No.	ADJUSTMENTS	DC VOLTMETER CONNECTION	PARTS ADJUSTED	ADJUSTING PROCEDURE
1	Clamp voltage	(L channel) Between A and B (minus probe) (R channel) Between C and D (minus probe)	VR603 (L channel) VR604 (R channel)	* Turn Icq semi-fixed resistors VR601, VR602 to minimum. (counter-clockwise direction) * Adjust VR603 (L.ch.) and VR604 (R ch.) to approx. 0.5 mV after one minute warm-up time.
2	Adjustment of Icq	(L channel) Between A and B (minus probe) (R channel) Between C and D (minus probe)	VR601 (L channel) VR602 (R channel)	* Adjust VR601 (L ch.) and VR602 (R ch.) to approx. 8～12 mV after one minute warm-up time.

ADJUSTMENT OF VOLTAGE APPLIED TO THE VOLUME CONTROL MOTOR

*** Do not apply input signal to the set.**

No.	ADJUSTMENTS	DC VOLTMETER CONNECTION	PARTS ADJUSTED	ADJUSTING PROCEDURE
1	Voltage applied to the motor	Between E and F	VR701	Make the tone volume up ➡ down at low speed, and adjust so that the average voltage is 3.0V between E and F.

TUNER ADJUSTMENT

Note : AM 2nd IFT (T201) have been already adjusted, and require no adjustment.

*** Equipment used**

1. AC and DC electronic voltmeters (VTVM)
2. AM signal generator (AM-SG)
3. FM signal generator (FM-SG)
4. Distortion analyster
5. Oscilloscope
6. Frequency counter (19 kHz and 108 MHz measurable)
7. FM 300Ω dummy antenna. (Fig. 23)

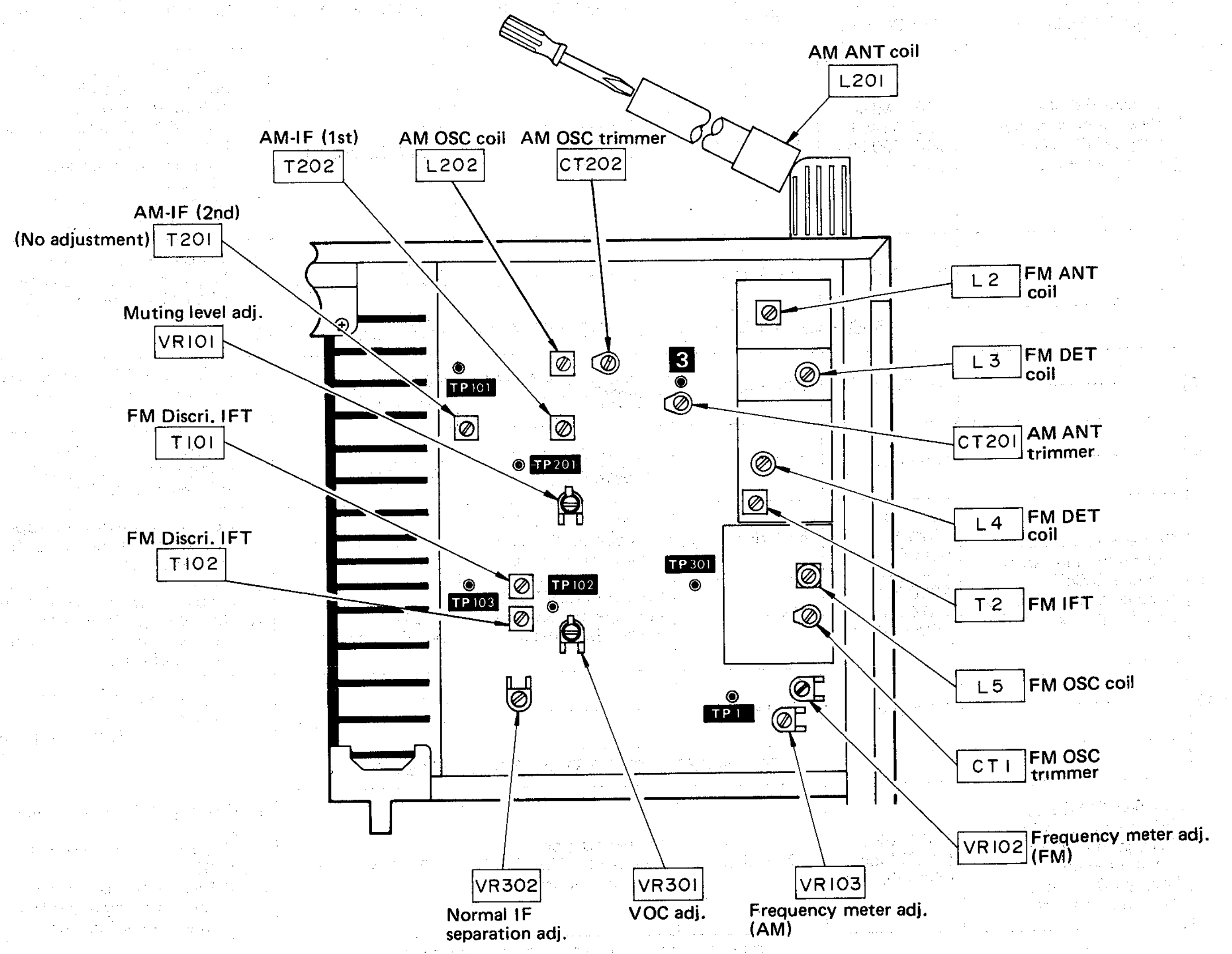
*** Setting**

1. Maintain line voltage at rated volts.
2. Output of signal generator should be no higher than necessary to obtain an output reading.
3. Adjust the antenna coil (L201) position by using a screwdriver so that it is at approximately 45 degrees to the rear panel.
4. Use a non-metal screwdriver for the adjustment.
5. Set input selector to "tuner" position.
6. Set band selector to { AM (AM adjustment) / FM (FM adjustment) } position.
7. Set FM muting/FM mode switch to "on/FM auto" position.
8. Set tape recording/tape monitoring to "source" position.
9. Main speaker switch to "on" position.
10. Set automatic-scan switch to "off" position.
11. Set FM/AM allocation selector to "0.2 MHz/10 kHz" position.
12. Set FM IF band selector to "normal" position.
13. Set dimension on/off switch to "off" position.

*** Preparation of FM signal generator (FM-SG)**

1. Connect stereo modulator to FM-SG.
2. Apply SG output to antenna terminal of the set through 300Ω FM dummy antenna.
3. The standard input of the set is 60 dB (1mV), 400 Hz 100%, modulation (Because of using dummy antenna, SG output must be 12 dB plus (IHF). That is, when input is 60 dB SG output is to be 72 dB.

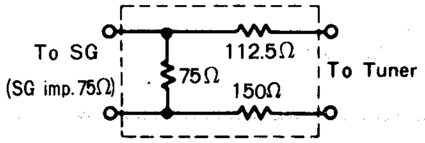
• Adjustment (tuner section)



Step No.	AM/FM SIGNAL GENERATOR CONNECTION	AM/FM SIGNAL GENERATOR FREQUENCY	DISPLAY FREQUENCY	PREPARATIONS	PARTS ADJUSTED	ADJUSTING PROCEDURE
	AM-IF ADJUSTMENT					
1	Connect AM-SG to AM antenna terminal through 220pF capacitor. Common to chassis. (Powerful input)	450 kHz. (30% Mod. with 400 Hz)	Frequency of non-interference.	Connect AC VTVM or scope to "Speaker" terminals of the set.	T202 (1st IFT)	1. Adjust the input frequency and adjustment points so that the output becomes maximum.
	FM-IF ADJUSTMENT					
2	————	No-Signal	100.1 MHz	Connect DC VTVM between TP102 and TP103 through choke coil. (Refer to Fig. 24)	T101 (Discri. IFT)	1. Adjust T101 core so that voltage measured in signal mode is 0V in 300mV range.
	FM-RF AND FM ANALOG FREQUENCY METER ADJUSTMENT					
3	————	No-Signal	87.9 MHz	Connect DC VTVM to TP1 terminal.	L5 (FM OSC Coil)	1. Adjust L5 so that voltage measured by DC voltmeter is 4.1V.
4	Connect FM-SG to FM antenna terminal through 300Ω FM dummy antenna.	90.1 MHz (100% Mod. with 400 Hz) Weak input	90.1 MHz	Connect scope to "Speaker" terminals of the set.	L2 (FM ANT Coil) L3 (FM DET Coil) L4 (FM DET Coil) T2 (FM IFT)	1. Add weak input so that noise is included in the output wave form. 2. Make the adjustment so that the output wave form is vertically symmetrical. (Refer to Fig. 25)

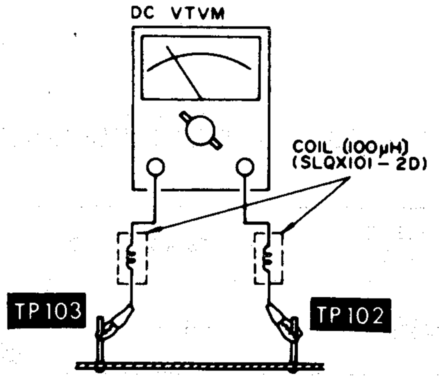
Step No.	FM SIGNAL GENERATOR		DISPLAY FREQUENCY	PREPARATIONS	PARTS ADJUSTED	ADJUSTING PROCEDURE
	CONNECTION	FREQUENCY				
5	Connect FM-SG to FM antenna terminal through 300Ω FM dummy antenna.	106.1 MHz (100% Mod. with 400 Hz) Weak input	106.1 MHz	Connect scope to "Speaker" terminals of the set.	CT1 (FM OSC Trimmer)	1. Add weak input so that noise is included in the output wave form. 2. Make the adjustment so that the output wave form is vertically symmetrical. (Refer to Fig. 25) 3. Check step (3) and if it is deflected readjust of L5.
6	————	No-Signal	100.1 MHz	————	VR102 (Frequency meter)	1. Adjust VR102 so that the frequency meter indicates 100.1 MHz. (Refer to Fig. 26)
	AM-RF AND AM ANALOG FREQUENCY METER ADJUSTMENT					
7	————	No-Signal	530 kHz	Connect DC VTVM to TP1 terminal.	L202 (AM OSC Coil)	1. Adjust L202 so that voltage measured by DC voltmeter is 1.25V ± 0.05V.
8	————	No-Signal	1620 kHz	Connect DC VTVM to TP1 terminal.	CT202 (AM OSC Trimmer)	1. Adjust CT202 so that voltage measured by DC voltmeter is 26.0V.
9	Connect AM-SG to AM antenna terminal through 200pF capacitor. Common to chassis. (Weak input)	610 kHz (30% Mod. with 400 Hz)	610 kHz	Connect AC VTVM to scope to "Speaker" terminals of the set.	L201 (ANT Coil)	1. Adjust for maximum output. 2. Adjust ferrite core of L201 by screwdriver.
		1500 kHz (30% Mod. with 400 Hz)	1500 kHz	Connect AC VTVM to scope to "Speaker" terminals to the set.	CT201 (ANT Trimmer)	1. Adjust for maximum output. 2. Repeat step (9) until the frequency correctly matches the dial display.
10	————	No-Signal	1500 kHz	————	VR103 (Frequency meter)	1. Adjust VR103 so that the frequency meter indicates 1500 kHz. (Refer to Fig. 26)
	FM MONO DISTORTION ADJUSTMENT					
11	Connect FM-SG to FM antenna terminal through 300Ω FM dummy antenna. (Apply 60 dB to antenna terminal)	100.1 MHz (100% Mod. with 400 Hz)	100.1 MHz	Connect distortion analyser to "Speaker" terminals of the set.	T102 (Discri. IFT)	1. Check step (2) in no signal mode. 2. If it is deflected, readjust of T101. 3. Adjust T102 core so that distortion of right and left channels are minimized.
	FM MUTING LEVEL ADJUSTMENT					
12	Connect FM-SG to FM antenna terminal through 300Ω FM dummy antenna. (Apply 16 dB to antenna terminal)	100.1 MHz (100% Mod. with 400 Hz)	100.1 MHz	Connect AC VTVM or scope to "Speaker" terminals of the set.	VR101 (Muting level)	1. Set the FM muting/FM mode switch to "off/mono". 2. With the FM muting/FM mode switch set to "on/FM auto" adjust VR101 so that the output is given with muting condition released.
	FM MPX PILOT (VCO) ADJUSTMENT					
13	Connect FM-SG to FM antenna terminal through 300Ω FM dummy antenna.	100.1 MHz (Non-modulated)	100.1 MHz	Connect frequency counter to TP301 terminal through resistor (100k Ω).	VR301 (VCO)	1. Set the FM muting/FM mode switch to "on/FM auto". 2. Adjust VR301 to 19 kHz ± 30 Hz.
	STEREO DISTORTION ADJUSTMENT					
14	Connect FM-SG to FM antenna terminal through 300Ω FM dummy antenna. (Pilot 10% Mod. stereo signal)	100.1 MHz (100% Mod. with 400 Hz) (L mode)	100.1 MHz	Connect distortion analyser to "Speaker" terminals of the set.	T2 (IFT)	1. Set the FM muting/FM mode switch to "on/FM auto". 2. Re-adjust the already adjusted T2 within ± 90° from the preset core position so that the distortion of L ch. is minimized.

Step No.	FM SIGNAL GENERATOR		DISPLAY FREQUENCY	PREPARATIONS	PARTS ADJUSTED	ADJUSTING PROCEDURE
	CONNECTION	FREQUENCY				
	SEPARATION ADJUSTMENT					
15	Connect FM-SG to FM antenna terminal through 300Ω FM dummy antenna. (Apply 60 dB to antenna terminal)	100.1 MHz (100% Mod. with 1 kHz) (L or R mode)	100.1 MHz	Connect AC VTVM or "Speaker" terminals of the set.	VR302 (Separation)	1. Set the FM muting/FM mode switch to "on/FM auto". 2. Adjust VR302 so that R output is minimized when stereo modulator is in L (L ch. modulation) mode and that L output is minimized in R mode.

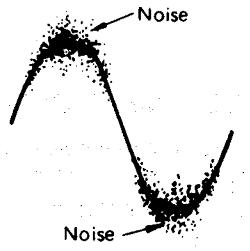


300Ω FM Dummy Antenna

[Fig. 23]

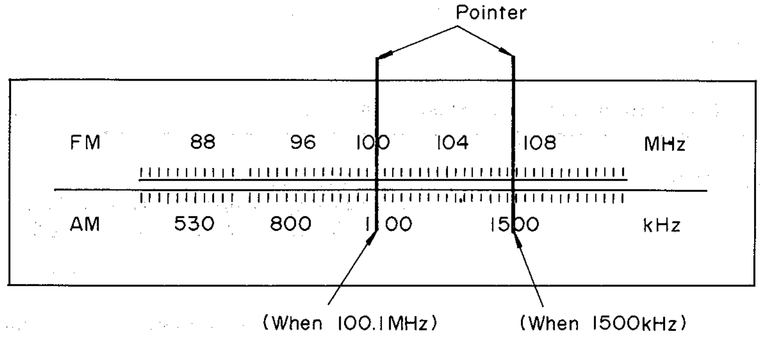


[Fig. 24]

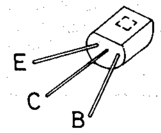
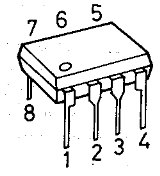
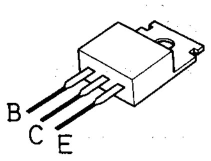
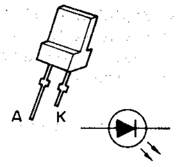
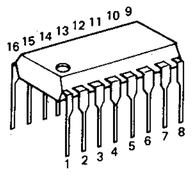
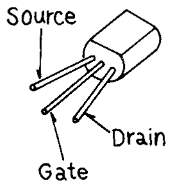
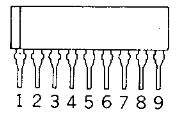
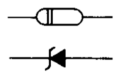


AF output wave form

[Fig. 25]

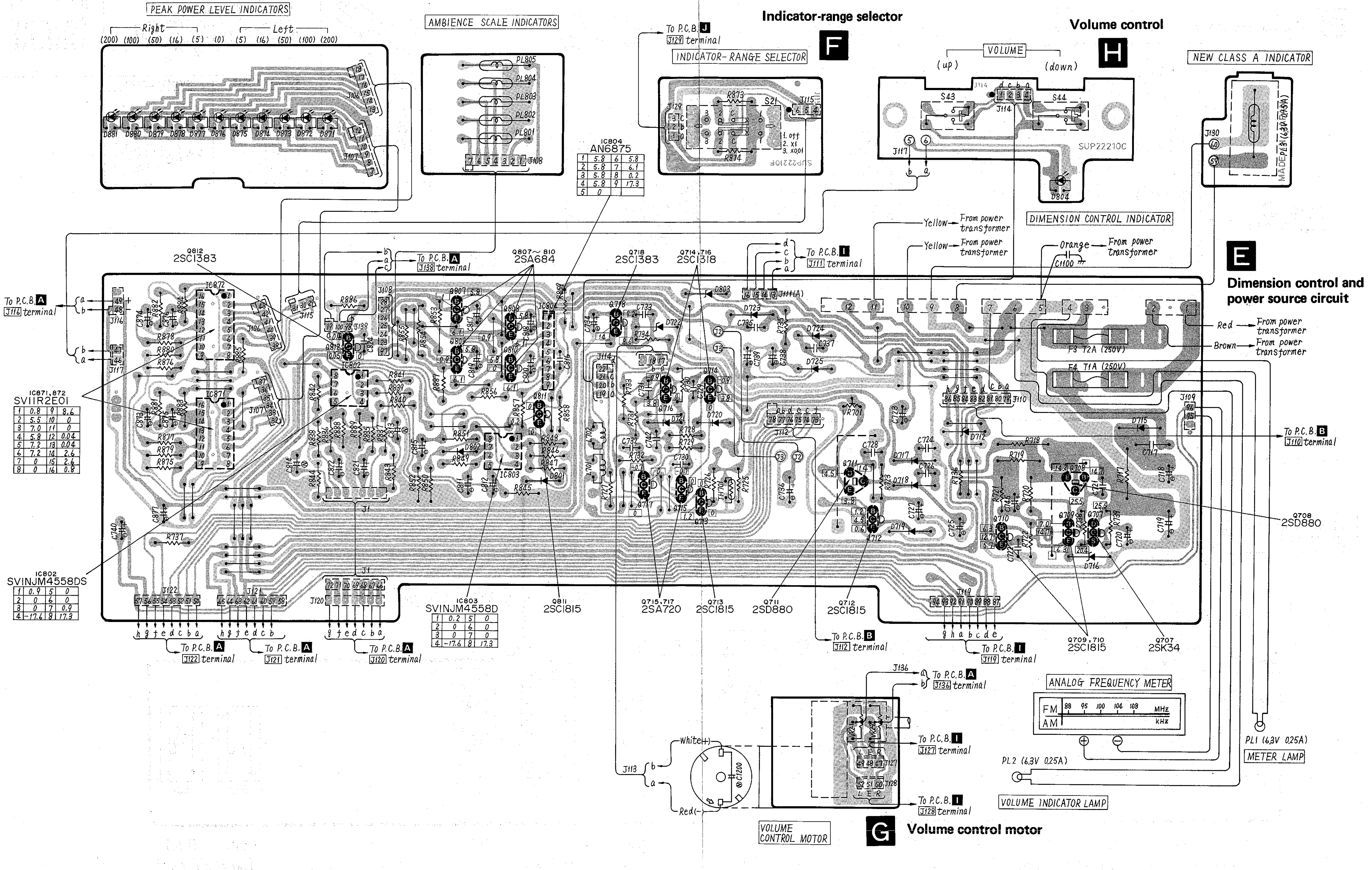


[Fig. 26]

2SC1383, 2SA720 2SA684, 2SC1815 2SC1318	SVINJM4558DS	2SD880	LN217RP, LN417YP LN317GP
			
SVIIR2E01	2SK34	AN6875	SVDMZ□□□□
			

■ CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

▨ Ground (Earth) lines


PEAK POWER LEVEL INDICATORS
Right
Left
(200) (100) (50) (16) (5) (0) (5) (16) (50) (100) (200)
D881 D880 D879 D878 D877 D876 D875 D874 D873 D872 D871
J106
J107
AMBIENCE SCALE INDICATORS
PL805
PL804
PL803
PL802
PL801
J108
Indicator-range selector
F
To P.C.B. J
J129 terminal
INDICATOR-RANGE SELECTOR
R873
R874
S21
J115
1. off
2. x1
3. x0.01
SUP22210F
Volume control
H
VOLUME
(up)
(down)
S43
S44
J114
J117
SUP22210C
D804
DIMENSION CONTROL INDICATOR
NEW CLASS A INDICATOR
J130
PL3 (6.3V 0.25A)
MADE
Yellow
From power transformer
Orange
C1100
E
Dimension control and power source circuit
Red
Brown
F3 T2A (250V)
F4 T1A (250V)
Q812
2SC1383
Q807～810
2SA684
Q718
2SC1383
Q714,716
2SC1318
To P.C.B. A
J138 terminal
To P.C.B. I
J111 terminal
To P.C.B. A
J116 terminal
J117
IC872
IC871
IC802
IC803
IC804
J1
J110
J109
J112
J119
J120
J121
J122
To P.C.B. B
J110 terminal
Q708
2SD880
Q811
2SC1815
Q715,717
2SA720
Q713
2SC1815
Q711
2SD880
Q712
2SC1815
Q709,710
2SC1815
Q707
2SK34
To P.C.B. A
J122 terminal
To P.C.B. A
J121 terminal
To P.C.B. A
J120 terminal
To P.C.B. B
J112 terminal
To P.C.B. I
J119 terminal
J136
To P.C.B. A
J136 terminal
To P.C.B. I
J127 terminal
To P.C.B. I
J128 terminal
J113
White(+)
Red(−)
C1200
VOLUME CONTROL MOTOR
G
Volume control motor
ANALOG FREQUENCY METER
FM 88 95 100 104 108 MHz
AM kHz
PL2 (6.3V 0.25A)
VOLUME INDICATOR LAMP
PL1 (6.3V 0.25A)
METER LAMP

IC804
AN6875

1	5.8	6	5.8
2	5.8	7	6.1
3	5.8	8	0.2
4	5.8	9	17.3
5	0		

IC871, 872
SVI1R2E01

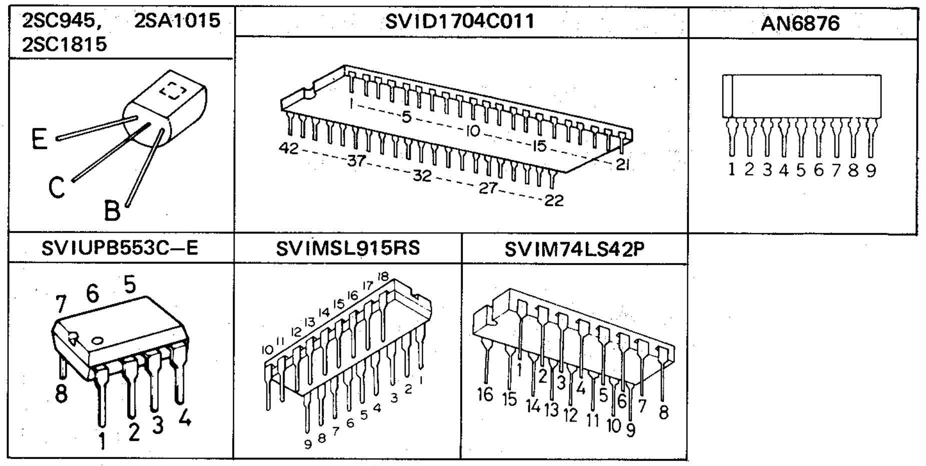
1	0.8	9	8.6
2	5.5	10	0
3	7.0	11	0
4	5.8	12	0.04
5	7.2	13	0.04
6	7.2	14	2.6
7	0	15	2.6
8	0	16	0.8

IC802
SVINJM4558DS

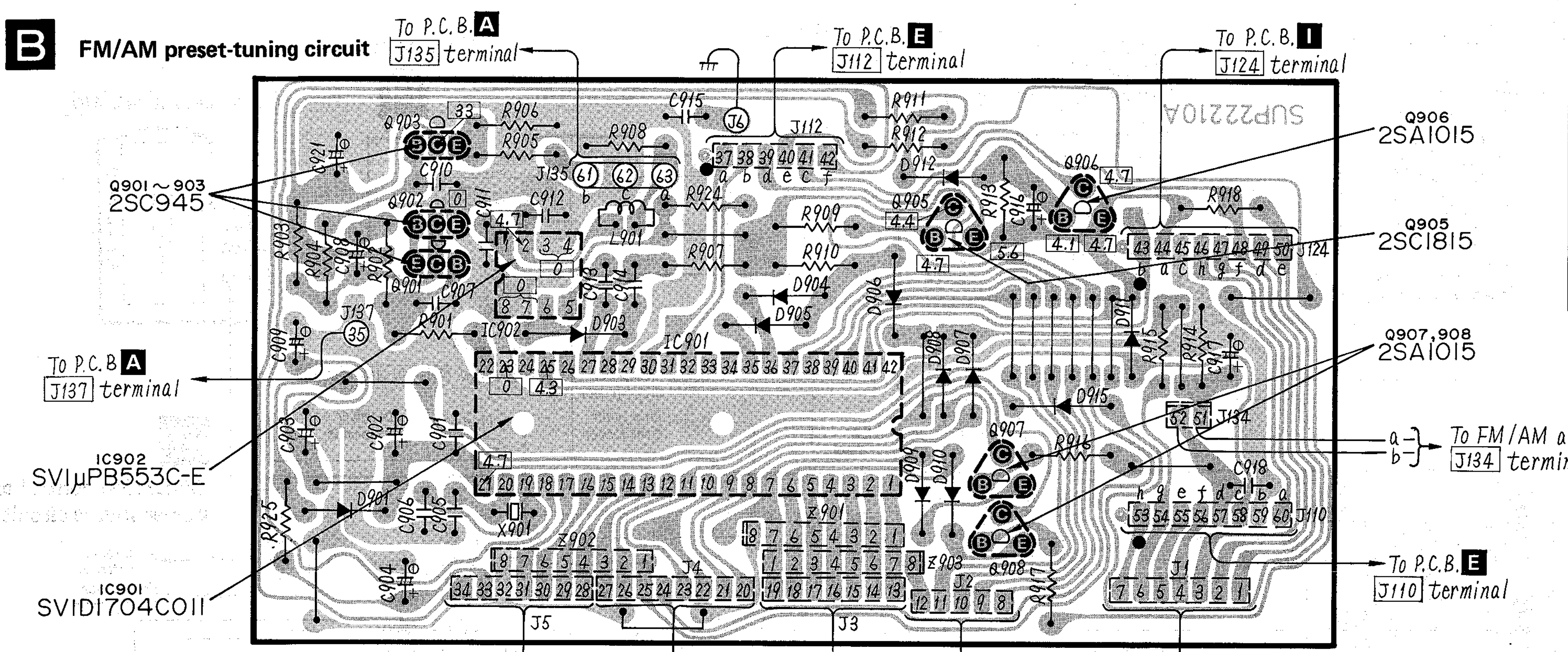
1	0.9	5	0
2	0	6	0
3	0	7	0.9
4	-17.6	8	17.3

IC803
SVINJM4558D

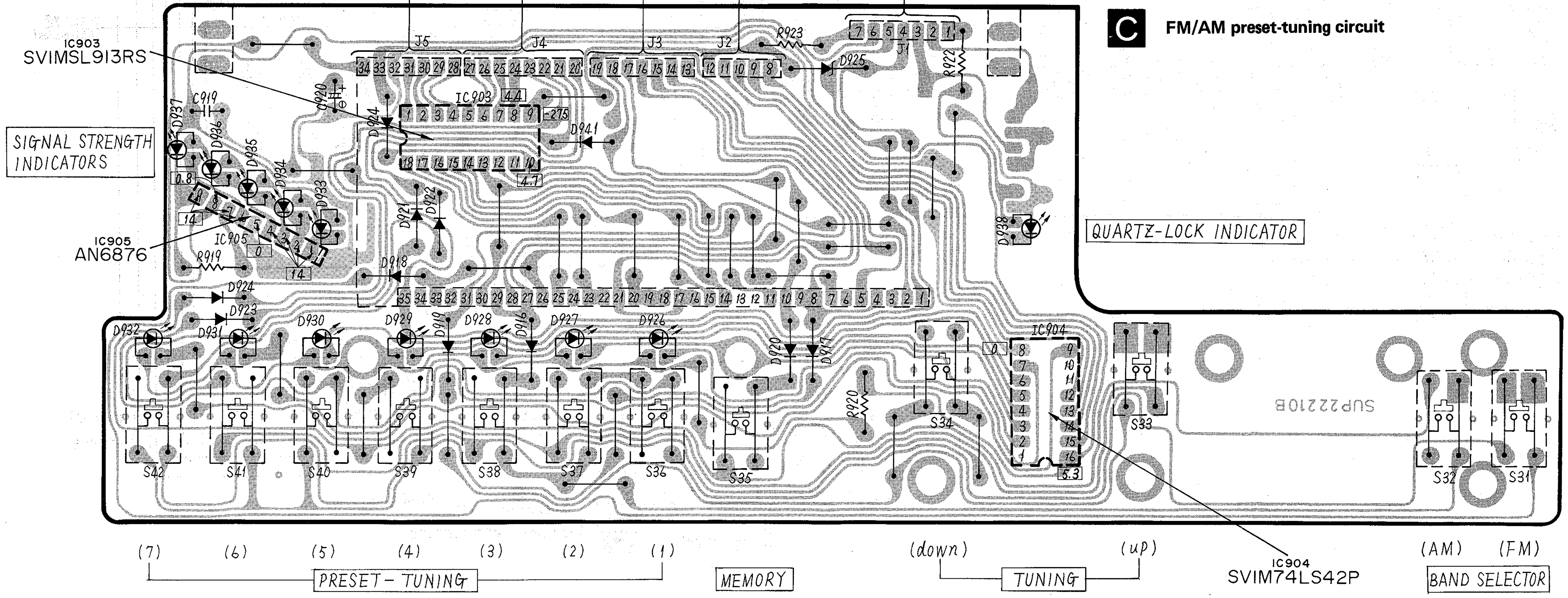
1	0.2	5	0
2	0	6	0
3	0	7	0
4	-17.6	8	17.3


2SC945, 2SA1015
2SC1815
E
C
B
SVID1704C011
1
5
10
15
21
42
37
32
27
22
AN6876
1 2 3 4 5 6 7 8 9
SVIUPB553C-E
7 6 5
8
1 2 3 4
SVIMSL915RS
SVIM74LS42P
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8

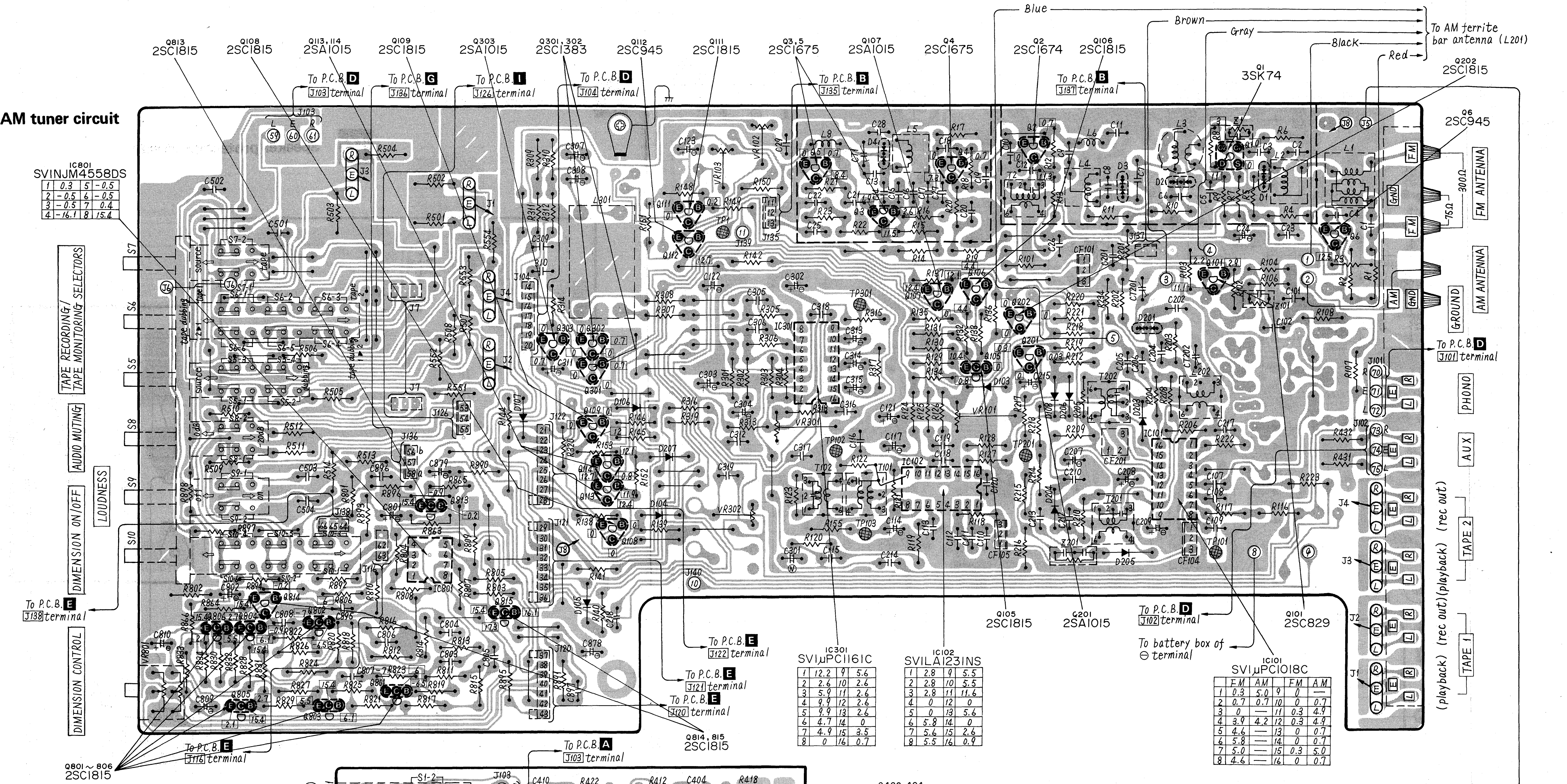
B FM/AM preset-tuning circuit


To P.C.B. A
J135 terminal
To P.C.B. E
J112 terminal
To P.C.B. I
J124 terminal
SUP2221OA
Q906
2SA1015
Q905
2SC1815
Q907, 908
2SA1015
Q901 ~ 903
2SC945
To P.C.B A
J137 terminal
IC902
SVIμPB553C-E
IC901
SVID1704C011
To FM/AM allocation switch
J134 terminal
To P.C.B. E
J110 terminal
Q903
Q902
Q901
Q904
Q905
Q906
Q907
Q908
R901
R903
R904
R905
R906
R907
R908
R909
R910
R911
R912
R913
R914
R915
R916
R917
R918
R924
R925
C901
C902
C903
C904
C905
C906
C907
C908
C909
C910
C911
C912
C913
C914
C915
C916
C917
C918
C921
D901
D903
D904
D905
D906
D907
D908
D909
D910
D911
D912
D915
IC901
IC902
L901
X901
Z901
Z902
Z903
J1
J2
J3
J4
J5
J110
J112
J124
J134
J135
J137
33
4.7
4.4
5.6
4.1
4.3
0

C FM/AM preset-tuning circuit


IC903
SVIMSL913RS
SIGNAL STRENGTH INDICATORS
IC905
AN6876
QUARTZ-LOCK INDICATOR
IC904
SVIM74LS42P
SUP2221OB
J1
J2
J3
J4
J5
R919
R920
R922
R923
C919
C920
D916
D917
D918
D919
D920
D921
D922
D923
D924
D925
D926
D927
D928
D929
D930
D931
D932
D933
D934
D935
D936
D937
D938
D941
S31
S32
S33
S34
S35
S36
S37
S38
S39
S40
S41
S42
4.4
4.7
2.75
0.8
5.3
14
(7)
(6)
(5)
(4)
(3)
(2)
(1)
PRESET-TUNING
MEMORY
(down)
(up)
TUNING
(AM)
(FM)
BAND SELECTOR

A FM/AM tuner circuit


Q813 2SC1815
Q108 2SC1815
Q113, 114 2SA1015
Q109 2SC1815
Q303 2SA1015
Q301, 302 2SC1383
Q112 2SC945
Q111 2SC1815
Q3, 5 2SC1675
Q107 2SA1015
Q4 2SC1675
Q2 2SC1674
Q106 2SC1815
Q1 3SK74
Q202 2SC1815
Q6 2SC945
Blue
Brown
Gray
Black
Red
To AM ferrite bar antenna (L201)
To P.C.B. D J103 terminal
To P.C.B. G J136 terminal
To P.C.B. I J126 terminal
To P.C.B. D J104 terminal
To P.C.B. B J135 terminal
To P.C.B. B J137 terminal
FM ANTENNA
300Ω
75Ω
AM ANTENNA
GROUND
To P.C.B. D J101 terminal
PHONO
AUX
TAPE 2
TAPE 1
(playback) (rec out)
(playback) (rec out)
TAPE RECORDING/ TAPE MONITORING SELECTORS
AUDIO MUTING
LOUDNESS
DIMENSION ON/OFF
DIMENSION CONTROL
S7
S6
S5
S8
S9
S10
To P.C.B. E J138 terminal
To P.C.B. E J116 terminal
Q801～806 2SC1815
To P.C.B. E J122 terminal
To P.C.B. E J121 terminal
To P.C.B. E J120 terminal
Q814, 815 2SC1815
Q105 2SC1815
Q201 2SA1015
To P.C.B. D J102 terminal
To battery box of ⊖ terminal
Q101 2SC829
J1
J2
J3
J4

IC801
SVINJM4558DS

1	0.3	5	-0.5
2	-0.5	6	-0.5
3	-0.5	7	0.4
4	-16.1	8	15.4

IC301
SVIμPC1161C

1	12.2	9	5.6
2	2.6	10	2.6
3	5.9	11	2.6
4	9.9	12	2.6
5	9.9	13	2.6
6	4.7	14	0
7	4.9	15	3.5
8	0	16	0.7

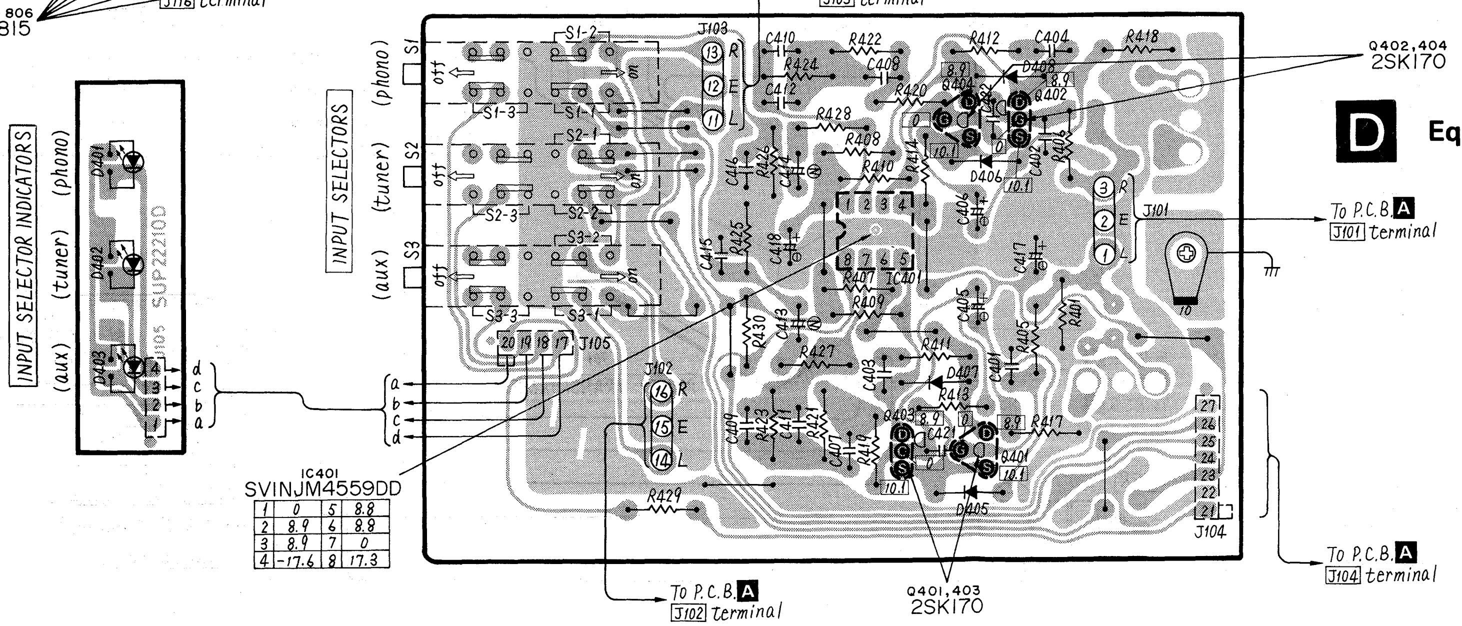
IC102
SVILA1231NS

1	2.8	9	5.5
2	2.8	10	5.5
3	2.8	11	11.6
4	0	12	0
5	0	13	5.6
6	5.8	14	0
7	5.6	15	2.6
8	5.5	16	0.9

IC101
SVIμPC1018C

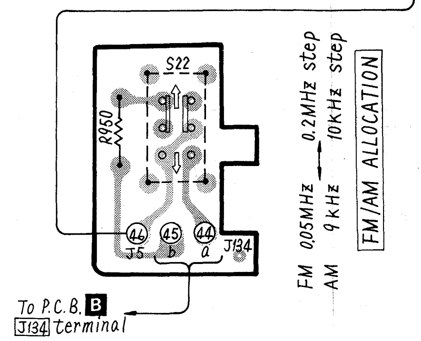
	FM	AM		FM	AM
1	0.3	5.0	9	0	—
2	0.7	0.7	10	0	0.7
3	0	—	11	0.3	4.9
4	3.9	4.2	12	0.3	4.9
5	4.6	—	13	0	0.7
6	5.8	—	14	0	0.7
7	5.0	—	15	0.3	5.0
8	4.6	—	16	0	0.7

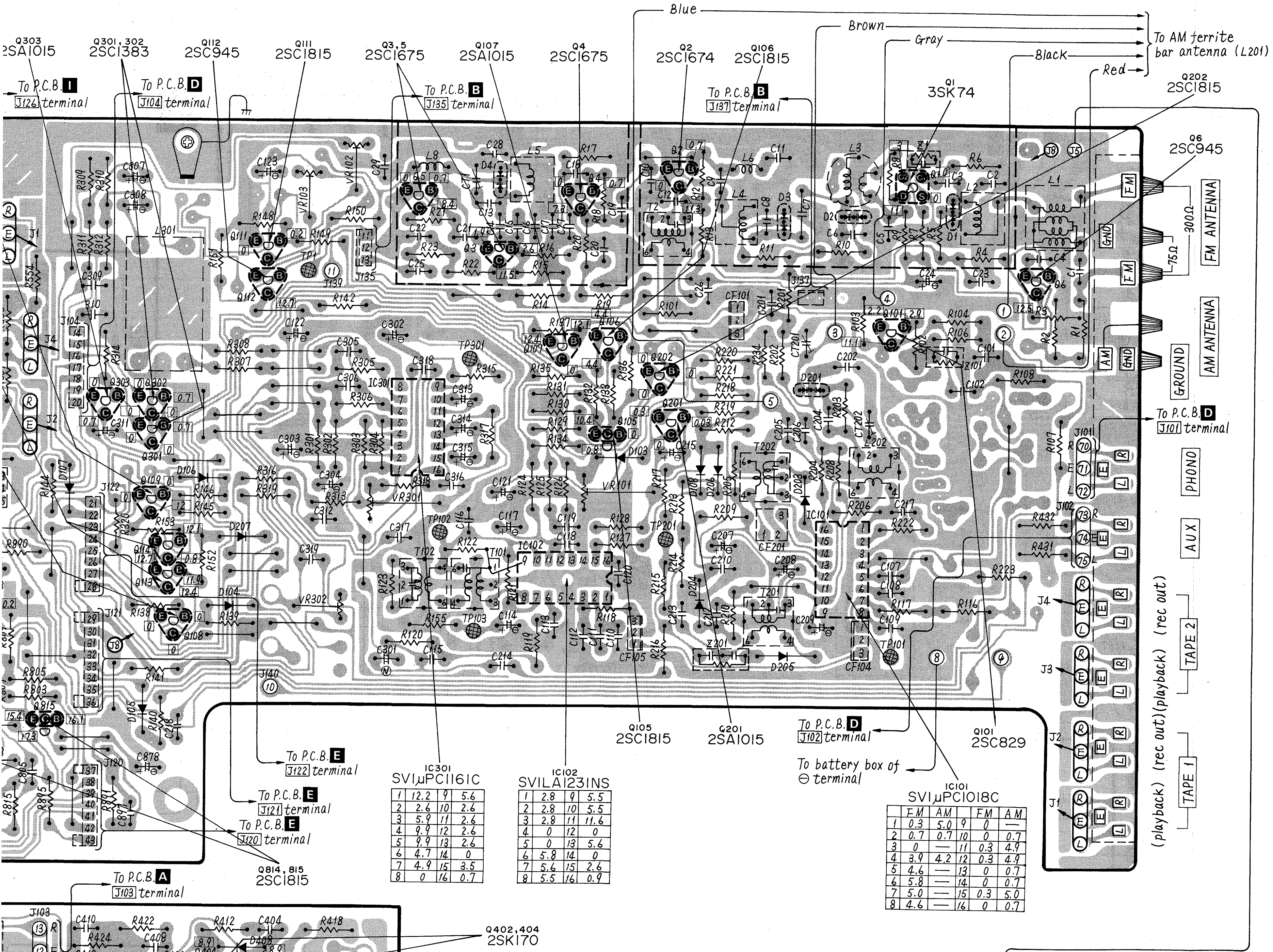
D Equalizer circuit


INPUT SELECTOR INDICATORS
(phono)
(tuner)
(aux)
D401
D402
D403
SUP2210D
J105
INPUT SELECTORS
S1
S2
S3
off
on
To P.C.B. A J103 terminal
Q402, 404 2SK170
To P.C.B. A J101 terminal
To P.C.B. A J102 terminal
To P.C.B. A J104 terminal
Q401, 403 2SK170
J102
J104
R
E
L
a
b
c
d

IC401
SVINJM4559DD

1	0	5	8.8
2	8.9	6	8.8
3	8.9	7	0
4	-17.6	8	17.3


S22
R950
J5
J134
a
b
FM 005MHz → 0.2MHz step
AM 9kHz → 10kHz step
FM/AM ALLOCATION
To P.C.B. B J134 terminal


Q303 2SA1015
Q301, 302 2SC1383
Q112 2SC945
Q111 2SC1815
Q3, 5 2SC1675
Q107 2SA1015
Q4 2SC1675
Q2 2SC1674
Q106 2SC1815
Q1 3SK74
Q202 2SC1815
Q6 2SC945
Blue
Brown
Gray
Black
Red
To AM ferrite bar antenna (L201)
To P.C.B. I J124 terminal
To P.C.B. D J104 terminal
To P.C.B. B J135 terminal
To P.C.B. B J137 terminal
FM ANTENNA
300Ω
75Ω
AM ANTENNA
GROUND
FM
GND
AM
To P.C.B. D J101 terminal
PHONO
AUX
TAPE 2
TAPE 1
(playback) (rec out) (playback) (rec out)
J1
J2
J3
J4
J101
J102
To P.C.B. E J122 terminal
To P.C.B. E J121 terminal
To P.C.B. E J120 terminal
Q814, 815 2SC1815
IC301
IC102
Q105 2SC1815
Q201 2SA1015
To P.C.B. D J102 terminal
To battery box of ⊖ terminal
IC101
Q101 2SC829

IC301
SVIμPC1161C

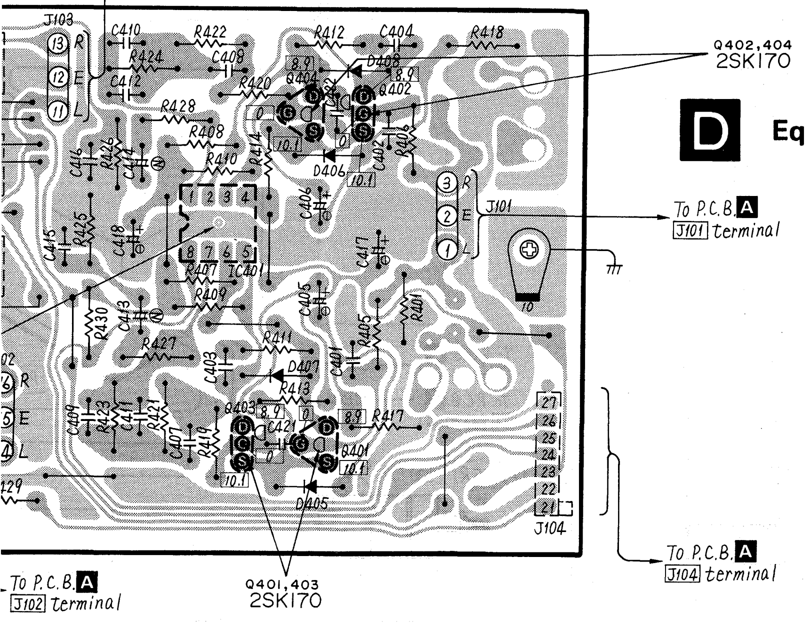
1	12.2	9	5.6
2	2.6	10	2.6
3	5.9	11	2.6
4	9.9	12	2.6
5	9.9	13	2.6
6	4.7	14	0
7	4.9	15	3.5
8	0	16	0.7

IC102
SVILA1231NS

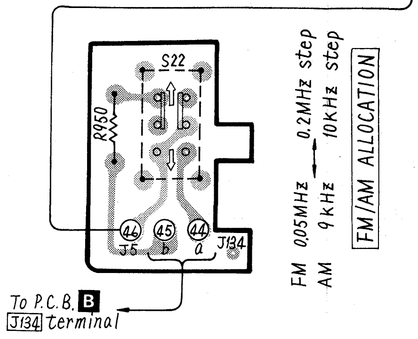
1	2.8	9	5.5
2	2.8	10	5.5
3	2.8	11	11.6
4	0	12	0
5	0	13	5.6
6	5.8	14	0
7	5.6	15	2.6
8	5.5	16	0.9

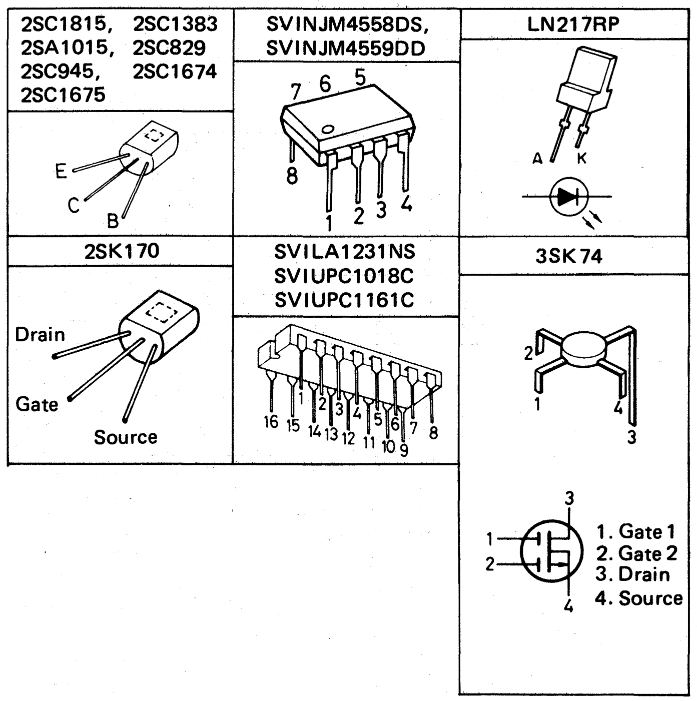
IC101
SVIμPC1018C

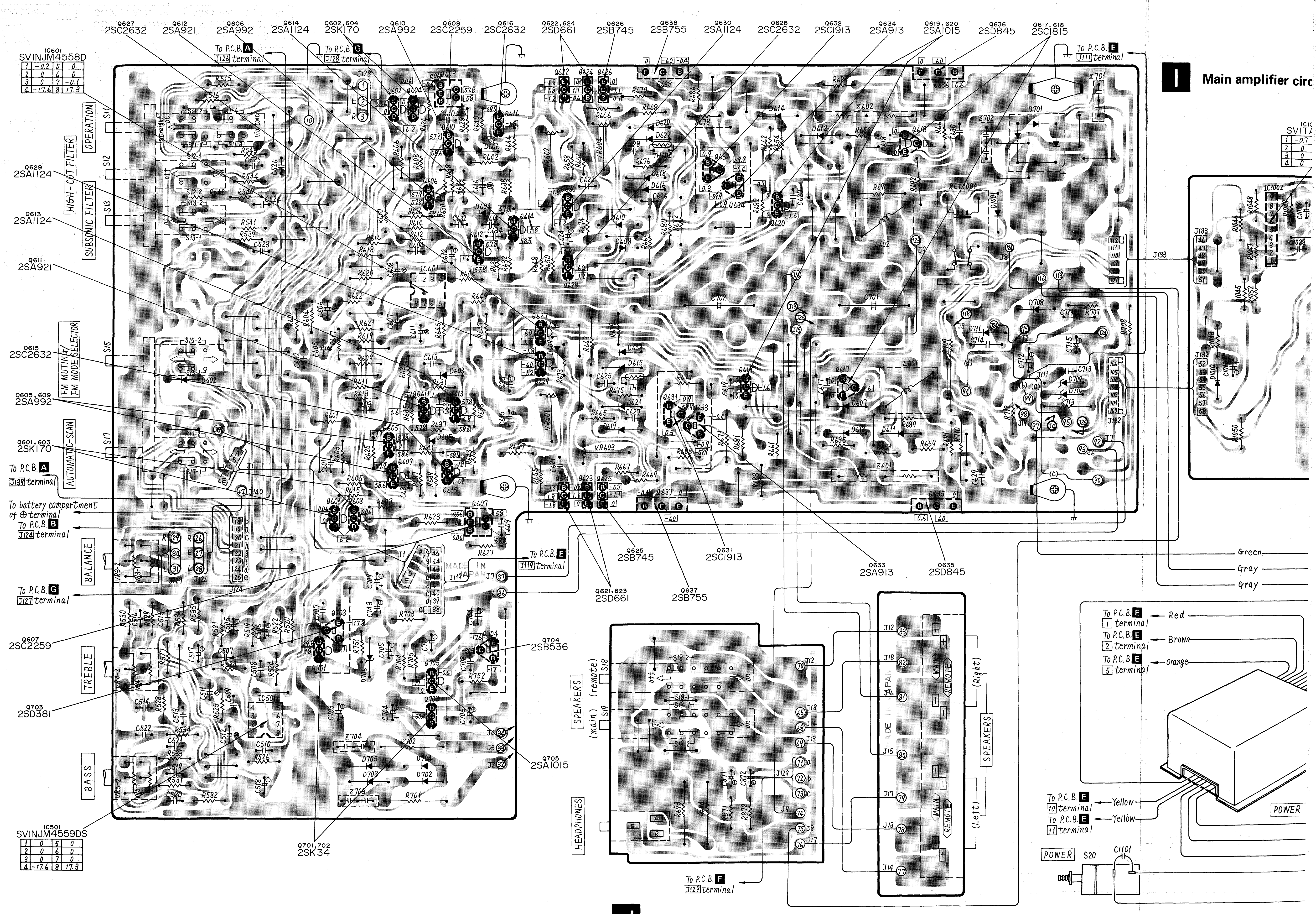
	FM	AM		FM	AM
1	0.3	5.0	9	0	—
2	0.7	0.7	10	0	0.7
3	0	—	11	0.3	4.9
4	3.9	4.2	12	0.3	4.9
5	4.6	—	13	0	0.7
6	5.8	—	14	0	0.7
7	5.0	—	15	0.3	5.0
8	4.6	—	16	0	0.7


To P.C.B. A J103 terminal
Q402, 404 2SK170
To P.C.B. A J101 terminal
To P.C.B. A J104 terminal
To P.C.B. A J102 terminal
Q401, 403 2SK170
J103
J101
J104

D Equalizer circuit

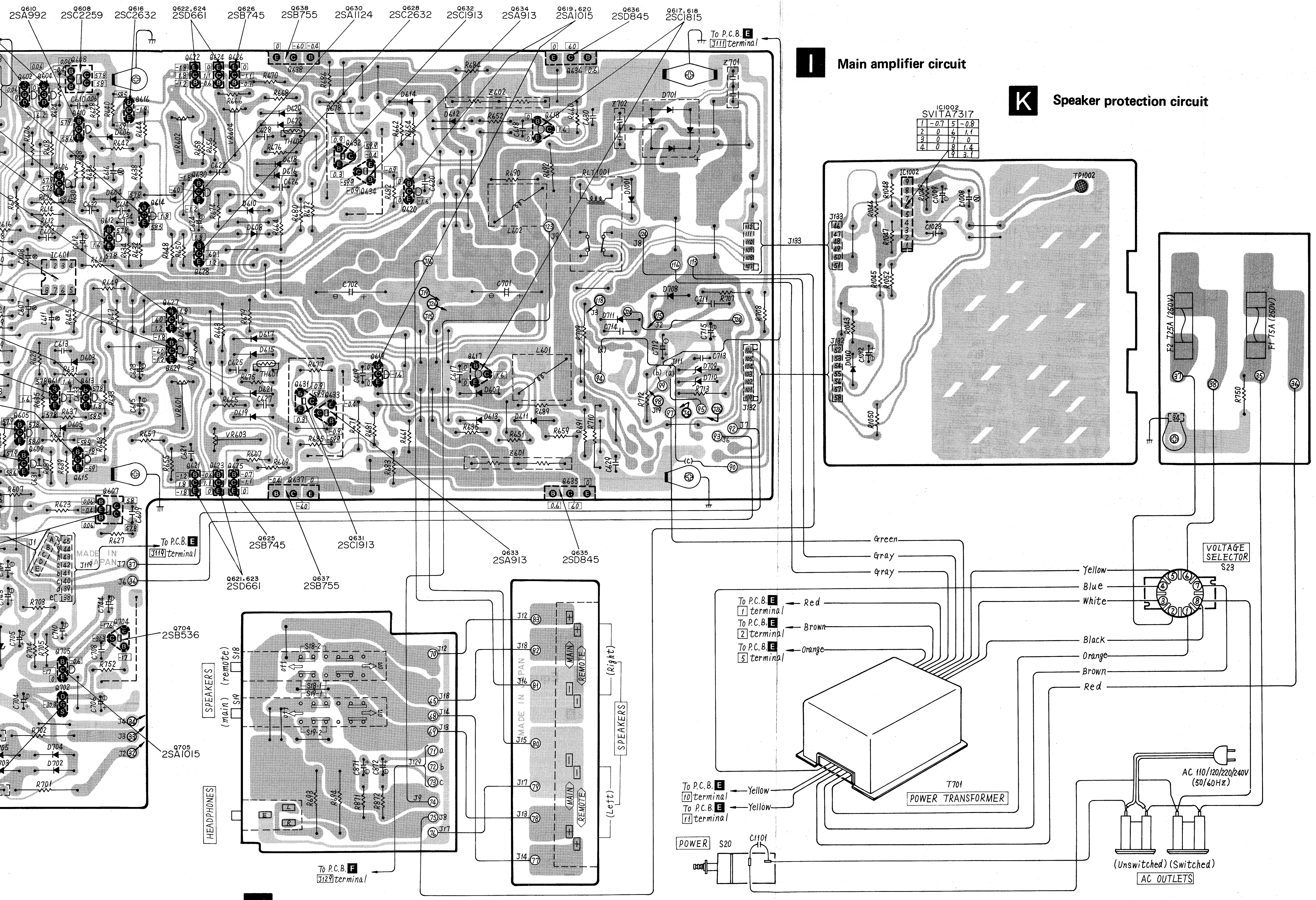

S22
R950
J5
J134
To P.C.B. B J134 terminal
FM 0.05MHz ⟷ 0.2MHz step
AM 9kHz ⟷ 10kHz step
FM/AM ALLOCATION


2SC1815, 2SC1383
2SA1015, 2SC829
2SC945, 2SC1674
2SC1675
E
C
B
SVINJM4558DS,
SVINJM4559DD
LN217RP
A
K
2SK170
Drain
Gate
Source
SVILA1231NS
SVIUPC1018C
SVIUPC1161C
3SK74
1. Gate 1
2. Gate 2
3. Drain
4. Source


Q627 2SC2632
Q612 2SA921
Q606 2SA992
Q614 2SA1124
Q602, 604 2SK170
Q610 2SA992
Q608 2SC2259
Q616 2SC2632
Q622, 624 2SD661
Q626 2SB745
Q638 2SB755
Q630 2SA1124
Q628 2SC2632
Q632 2SC1913
Q634 2SA913
Q619, 620 2SA1015
Q636 2SD845
Q617, 618 2SC1815
To P.C.B. A J126 terminal
To P.C.B. G J128 terminal
To P.C.B. E J111 terminal
IC601 SVINJM4558D
1 -0.2 5 0
2 0 6 0
3 0 7 -0.1
4 -17.6 8 17.3
OPERATION
HIGH-CUT FILTER
SUBSONIC FILTER
FM MUTING/FM MODE SELECTOR
AUTOMATIC-SCAN
BALANCE
TREBLE
BASS
S11
S12
S13
S16
S17
Q629 2SA1124
Q613 2SA1124
Q611 2SA921
Q615 2SC2632
Q605, 609 2SA992
Q601, 603 2SK170
To P.C.B. A J139 terminal
To battery compartment of ⊕ terminal
To P.C.B. B J124 terminal
To P.C.B. G J127 terminal
Q607 2SC2259
Q703 2SD381
IC501 SVINJM4559DS
1 0 5 0
2 0 6 0
3 0 7 0
4 -17.6 8 17.3
Q701, 702 2SK34
To P.C.B. E J119 terminal
MADE IN JAPAN
Q704 2SB536
Q705 2SA1015
Q625 2SB745
Q621, 623 2SD661
Q637 2SB755
Q631 2SC1913
Q633 2SA913
Q635 2SD845
RLY1001
IC1002
J133
J182
SVITA
Green
Gray
Gray
SPEAKERS (remote) S18
(main) S19
HEADPHONES
SPEAKERS
(Right)
(Left)
MAIN
REMOTE
MADE IN JAPAN
To P.C.B. F J129 terminal
To P.C.B. E 1 terminal Red
To P.C.B. E 2 terminal Brown
To P.C.B. E 5 terminal Orange
To P.C.B. E 10 terminal Yellow
To P.C.B. E 11 terminal Yellow
POWER
POWER S20
C1101

I Main amplifier circ

J Speaker selector

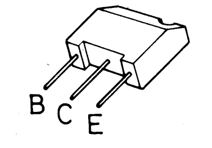
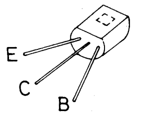
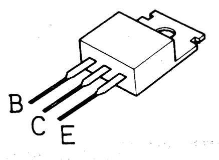
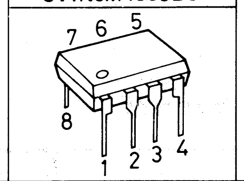
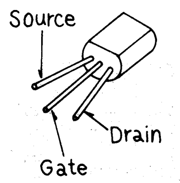
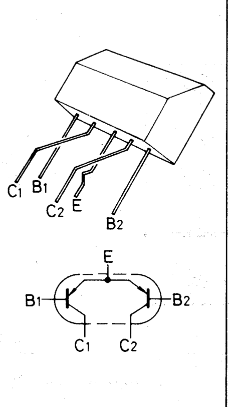
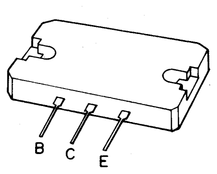
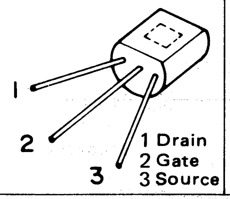
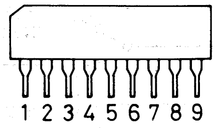
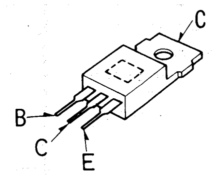
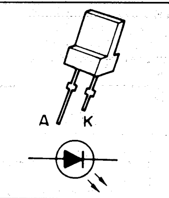


I Main amplifier circuit

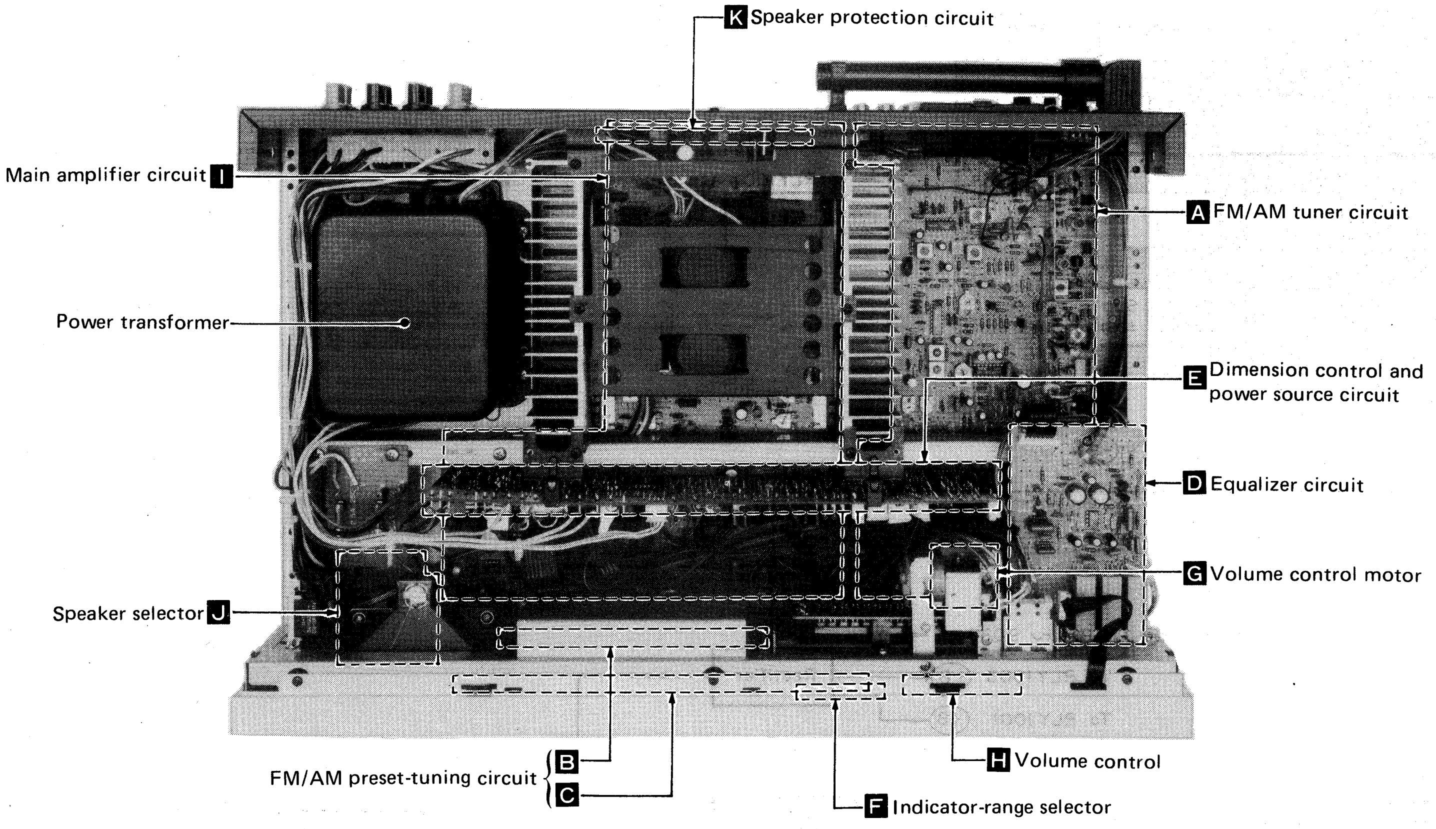
K Speaker protection circuit

J Speaker selector

Q610 2SA992
Q608 2SC2259
Q616 2SC2632
Q622, 624 2SD661
Q626 2SB745
Q638 2SB755
Q630 2SA1124
Q628 2SC2632
Q632 2SC1913
Q634 2SA913
Q619, 620 2SA1015
Q636 2SD845
Q617, 618 2SC1815
To P.C.B. E J111 terminal
IC1002 SVITA7317
1 -0.7 5 -0.8
2 0 6 1.1
3 0 7 0
4 0 8 1.4
9 3.1
IC601
IC1002
TP1002
RLY1001
VR601
VR602
VR603
VR604
L601
L602
C701
C702
D701
Z701
Z702
J133
J132
F2 T2.5A (250V)
F1 T5A (250V)
R750
Q625 2SB745
Q631 2SC1913
Q633 2SA913
Q635 2SD845
Q621, 623 2SD661
Q637 2SB755
To P.C.B. E J119 terminal
MADE IN JAPAN
Q704 2SB536
Q705 2SA1015
SPEAKERS (remote) S18
(main) S19
HEADPHONES
To P.C.B. F J129 terminal
MAIN
REMOTE
(Right)
(Left)
SPEAKERS
Green
Gray
Gray
Yellow
Blue
White
VOLTAGE SELECTOR S23
To P.C.B. E 1 terminal Red
To P.C.B. E 2 terminal Brown
To P.C.B. E 5 terminal Orange
Black
Orange
Brown
Red
To P.C.B. E 10 terminal Yellow
To P.C.B. E 11 terminal Yellow
T701 POWER TRANSFORMER
AC 110/120/220/240V (50/60Hz)
POWER S20
C1101
(Unswitched) (Switched)
AC OUTLETS

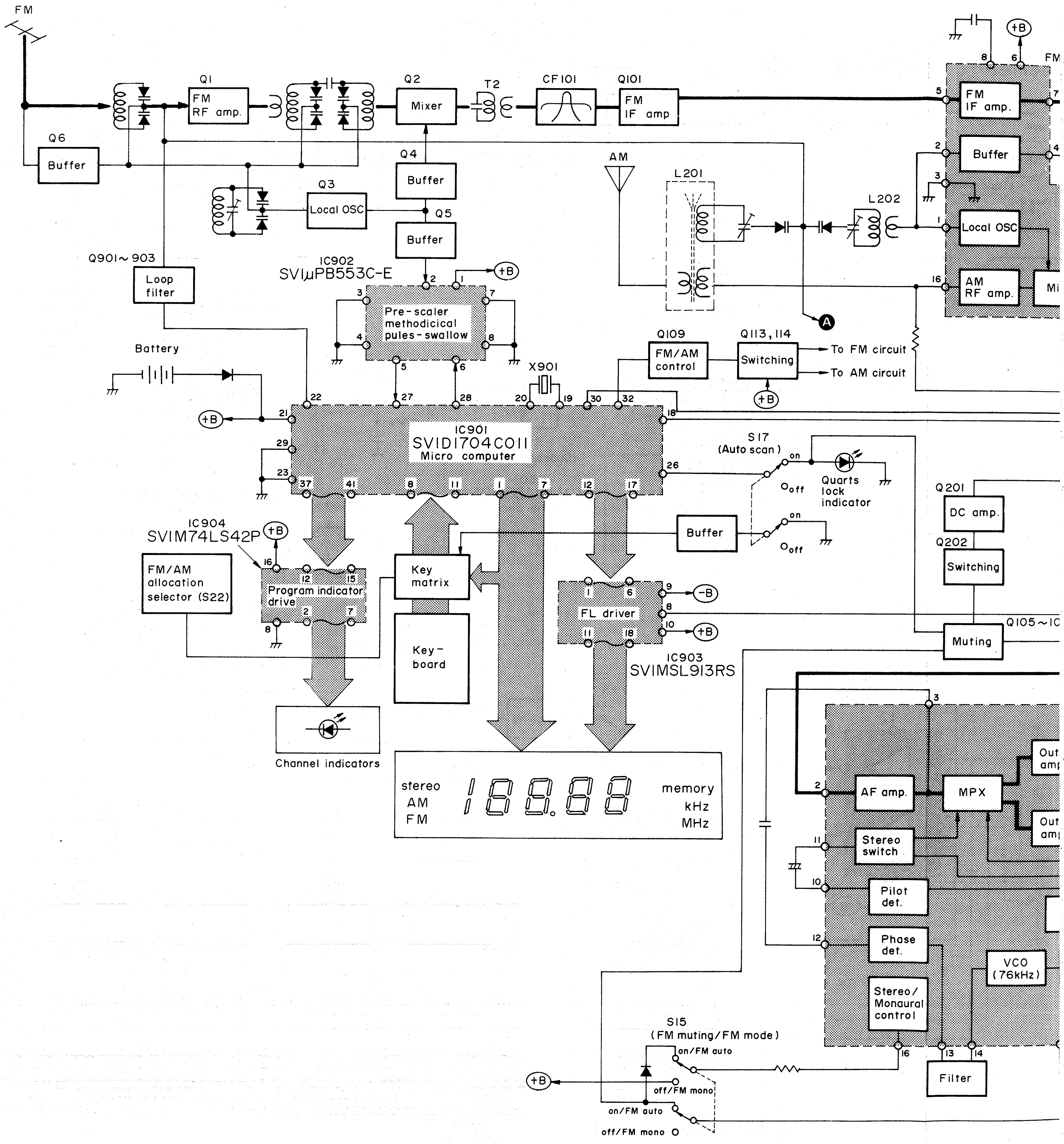
2SD661, 2SB745	2SC2632, 2SA1124 2SA992, 2SC1845 2SA1015, 2SC1815 2SC2003, 2SA921	2SC1913, 2SA913	SVINJM4558D, SVINJM4559DS	2SK34	2SC2259
				 Source Drain Gate	 C1 B1 C2 E B2 E B1 B2 C1 C2
2SB755, 2SD845	2SK170	SVITA7317	2SB536, 2SD381	LN217RP, LN317GP	
	 1 2 3 1 Drain 2 Gate 3 Source				

■ PRINTED CIRCUIT BOARDS LOCATION

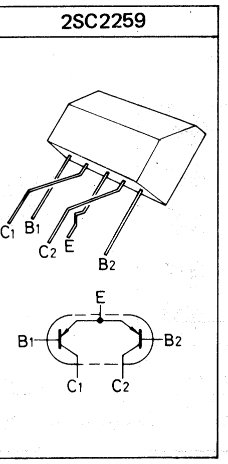

K Speaker protection circuit
Main amplifier circuit I
A FM/AM tuner circuit
Power transformer
E Dimension control and power source circuit
D Equalizer circuit
G Volume control motor
Speaker selector J
H Volume control
FM/AM preset-tuning circuit B C
F Indicator-range selector

■ BLOCK DIAGRAM

- **Tuner and FL display circuit**


FM
Q1
FM RF amp.
Q2
Mixer
T2
CF101
Q101
FM IF amp
Q6
Buffer
Q4
Buffer
Q3
Local OSC
Q5
Buffer
AM
L201
L202
FM IF amp.
Buffer
Local OSC
AM RF amp.
+B
A
Q901~903
Loop filter
IC902
SVIμPB553C-E
Pre-scaler methodicical pules-swallow
Battery
X901
Q109
FM/AM control
Q113, 114
Switching
To FM circuit
To AM circuit
IC901
SVID1704C011
Micro computer
S17
(Auto scan)
on
off
Quarts lock indicator
Buffer
Q201
DC amp.
Q202
Switching
Muting
Q105~1C
IC904
SVIM74LS42P
FM/AM allocation selector (S22)
Program indicator drive
Key matrix
Key-board
FL driver
IC903
SVIMSL913RS
-B
Channel indicators
stereo
AM
FM
memory
kHz
MHz
AF amp.
MPX
Stereo switch
Pilot det.
Phase det.
VCO (76kHz)
Stereo/Monaural control
Filter
S15
(FM muting/FM mode)
on/FM auto
off/FM mono
on/FM auto
off/FM mono

2SC2259


C1
B1
C2
E
B2
E
B1
B2
C1
C2

A FM/AM tuner circuit

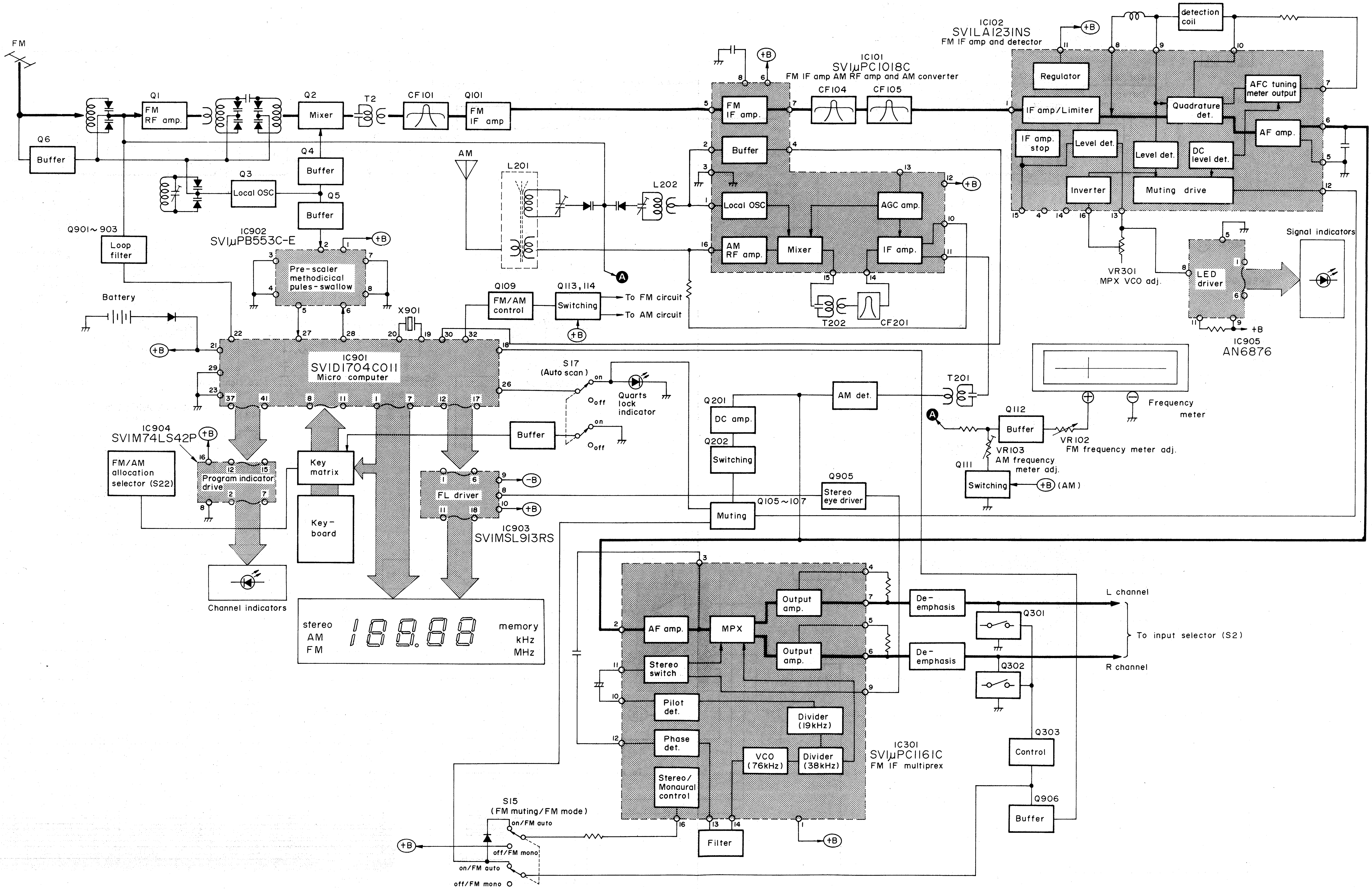
E Dimension control and power source circuit

D Equalizer circuit

G Volume control motor

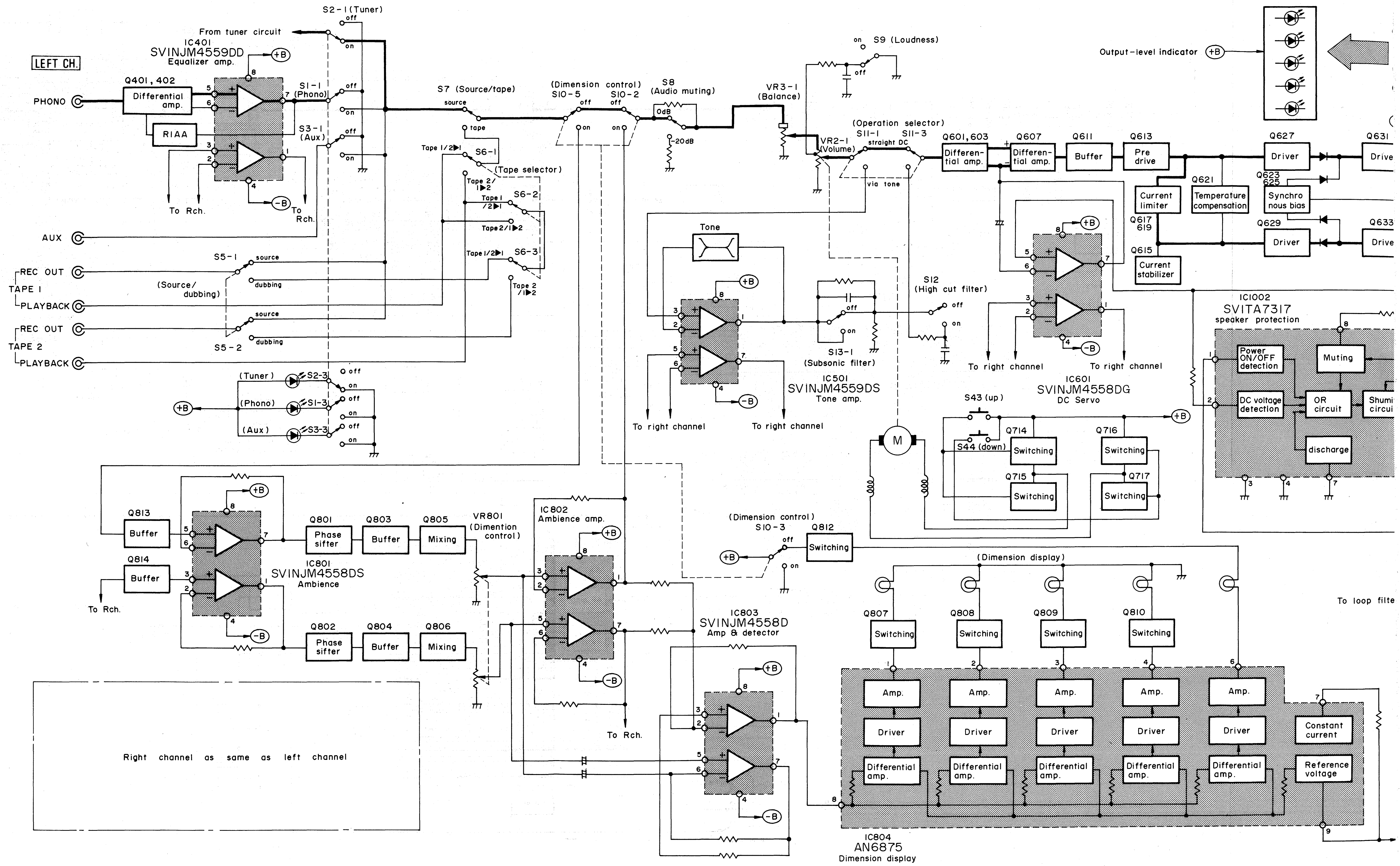
■ BLOCK DIAGRAM

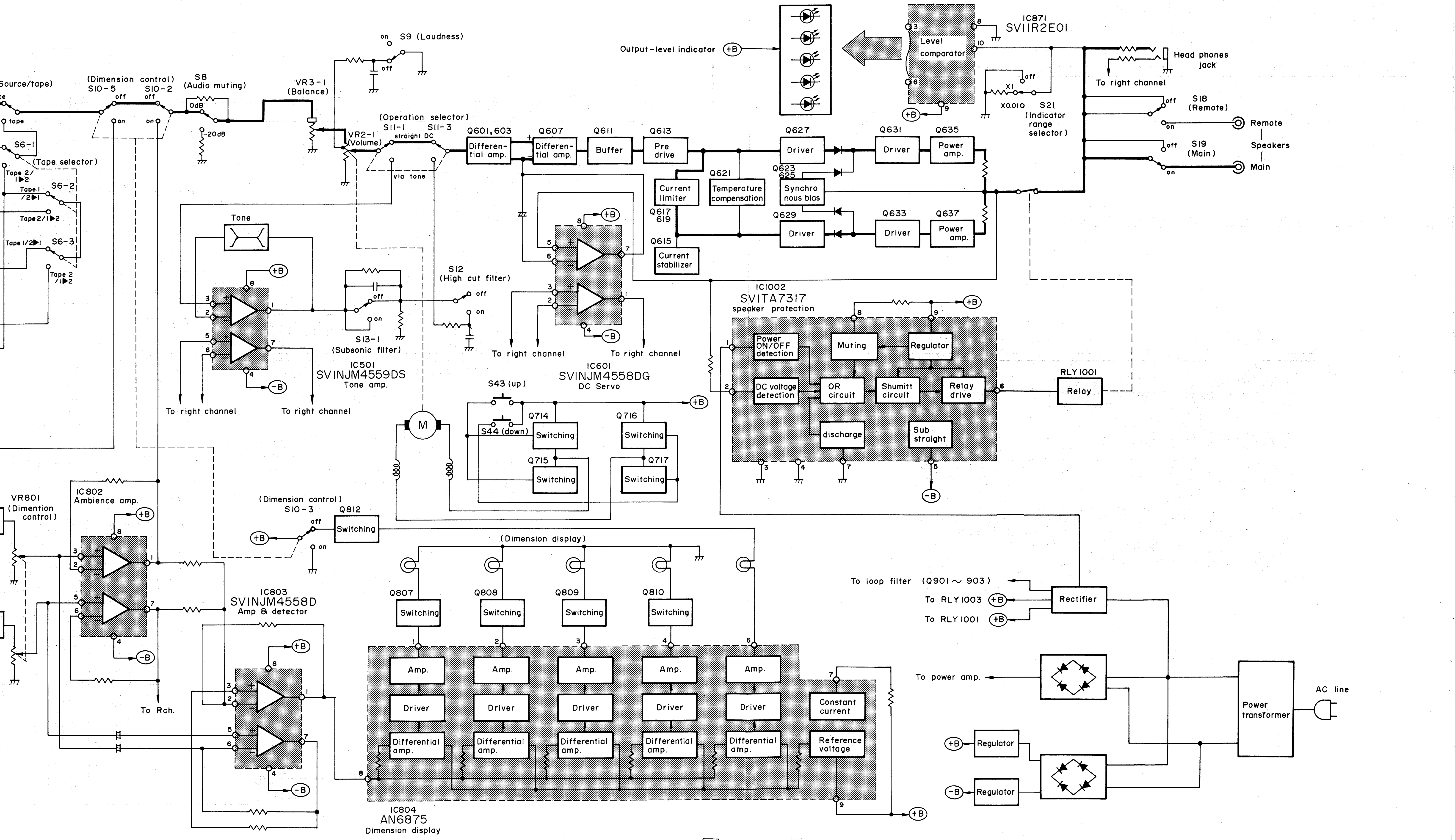
- **Tuner and FL display circuit**


FM
Q1
FM RF amp.
Q2
Mixer
T2
CF101
Q101
FM IF amp
Q6
Buffer
Q4
Buffer
Q3
Local OSC
Q5
Buffer
Q901~903
Loop filter
IC902
SVIμPB553C-E
Pre-scaler methodicical pules-swallow
Battery
X901
IC901
SVID1704C011
Micro computer
Q109
FM/AM control
Q113, 114
Switching
To FM circuit
To AM circuit
AM
L201
L202
IC101
SVIμPC1018C
FM IF amp AM RF amp and AM converter
FM IF amp.
Buffer
CF104
CF105
Local OSC
AGC amp.
AM RF amp.
Mixer
IF amp.
T202
CF201
IC102
SVILA1231NS
FM IF amp and detector
Regulator
detection coil
IF amp/Limiter
Quadrature det.
AFC tuning meter output
AF amp.
IF amp. stop
Level det.
Level det.
DC level det.
Inverter
Muting drive
VR301
MPX VCO adj.
LED driver
IC905
AN6876
Signal indicators
S17
(Auto scan)
on
off
Quarts lock indicator
Buffer
on
off
IC904
SVIM74LS42P
FM/AM allocation selector (S22)
Program indicator drive
Key matrix
Key-board
FL driver
IC903
SVIMSL913RS
Channel indicators
stereo
AM
FM
188.88
memory
kHz
MHz
Q201
DC amp.
Q202
Switching
Muting
Q105~107
Q905
Stereo eye driver
AM det.
T201
Q112
Buffer
VR102
FM frequency meter adj.
VR103
AM frequency meter adj.
Q111
Switching
+B (AM)
Frequency meter
IC301
SVIμPC1161C
FM IF multiprex
AF amp.
MPX
Output amp.
Output amp.
Stereo switch
Pilot det.
Phase det.
Stereo/Monaural control
Divider (19kHz)
VCO (76kHz)
Divider (38kHz)
Filter
De-emphasis
De-emphasis
Q301
Q302
Q303
Control
Q906
Buffer
L channel
R channel
To input selector (S2)
S15
(FM muting/FM mode)
on/FM auto
off/FM mono
on/FM auto
off/FM mono
+B
-B
A

■ BLOCK DIAGRAM

- **Amplifier, dimension control and tone circuit**


LEFT CH.
PHONO
AUX
REC OUT
TAPE 1
PLAYBACK
REC OUT
TAPE 2
PLAYBACK
From tuner circuit
S2-1 (Tuner)
off
on
IC401
SVINJM4559DD
Equalizer amp.
Q401, 402
Differential amp.
RIAA
S1-1 (Phono)
S3-1 (Aux)
+B
-B
To Rch.
To Rch.
S5-1
source
dubbing
(Source/dubbing)
S5-2
S7 (Source/tape)
source
tape
Tape 1/2▶I
S6-1
(Tape selector)
Tape 2/1▶2
Tape 1/2▶I
Tape 2/1▶2
Tape 1/2▶I
S6-2
S6-3
Tape 2/1▶2
(Tuner)
(Phono)
(Aux)
S2-3
S1-3
S3-3
(Dimension control)
S10-5
S10-2
S8 (Audio muting)
0dB
-20dB
VR3-1 (Balance)
VR2-1 (Volume)
S9 (Loudness)
(Operation selector)
S11-1
S11-3
straight DC
via tone
Q601, 603
Differential amp.
Q607
Differential amp.
Q611
Buffer
Q613
Pre drive
Q627
Driver
Q631
Drive
Q623 625
Synchro nous bias
Q621
Temperature compensation
Current limiter
Q617 619
Q615
Current stabilizer
Q629
Driver
Q633
Drive
Output-level indicator
Tone
IC501
SVINJM4559DS
Tone amp.
S12 (High cut filter)
S13-1 (Subsonic filter)
To right channel
To right channel
IC601
SVINJM4558DG
DC Servo
To right channel
To right channel
IC1002
SVITA7317
speaker protection
Power ON/OFF detection
Muting
DC voltage detection
OR circuit
Shumi circui
discharge
S43 (up)
S44 (down)
Q714
Switching
Q715
Switching
Q716
Switching
Q717
Switching
M
Q813
Buffer
Q814
Buffer
To Rch.
IC801
SVINJM4558DS
Ambience
Q801
Phase sifter
Q803
Buffer
Q805
Mixing
Q802
Phase sifter
Q804
Buffer
Q806
Mixing
VR801 (Dimention control)
IC802
Ambience amp.
To Rch.
IC803
SVINJM4558D
Amp & detector
(Dimension control)
S10-3
Q812
Switching
(Dimension display)
Q807
Switching
Q808
Switching
Q809
Switching
Q810
Switching
Amp.
Driver
Differential amp.
Constant current
Reference voltage
IC804
AN6875
Dimension display
To loop filte
Right channel as same as left channel


Output-level indicator
+B
Level comparator
IC871
SVI1R2E01
3
6
8
9
10
+B
Head phones jack
To right channel
off
X1
X0.010
S21
(Indicator range selector)
off
S18
(Remote)
on
Remote
Speakers
off
S19
(Main)
on
Main
on
S9 (Loudness)
off
Source/tape)
tape
(Dimension control)
S10-5
off
on
S10-2
off
on
S8
(Audio muting)
0dB
-20dB
VR3-1
(Balance)
VR2-1
(Volume)
(Operation selector)
S11-1
S11-3
straight DC
via tone
S6-1
(Tape selector)
Tape 2/1▶2
Tape 1/2▶1
S6-2
Tape2/1▶2
Tape 1/2▶1
S6-3
Tape 2/1▶2
Q601,603
Differential amp.
Q607
Differential amp.
Q611
Buffer
Q613
Pre drive
Q627
Driver
Q631
Driver
Q635
Power amp.
Q621
Temperature compensation
Q623
625
Synchro nous bias
Current limiter
Q617
619
Q615
Current stabilizer
Q629
Driver
Q633
Driver
Q637
Power amp.
Tone
+B
IC501
SVINJM4559DS
Tone amp.
-B
To right channel
To right channel
S12
(High cut filter)
off
on
S13-1
(Subsonic filter)
off
on
+B
IC601
SVINJM4558DG
DC Servo
-B
To right channel
To right channel
IC1002
SVITA7317
speaker protection
+B
Power ON/OFF detection
Muting
Regulator
DC voltage detection
OR circuit
Shumitt circuit
Relay drive
discharge
Sub straight
-B
RLY1001
Relay
S43 (up)
S44 (down)
+B
M
Q714
Switching
Q716
Switching
Q715
Switching
Q717
Switching
VR801
(Dimention control)
IC802
Ambience amp.
+B
-B
To Rch.
(Dimension control)
S10-3
off
on
+B
Q812
Switching
(Dimension display)
IC803
SVINJM4558D
Amp & detector
+B
-B
Q807
Switching
Q808
Switching
Q809
Switching
Q810
Switching
Amp.
Amp.
Amp.
Amp.
Amp.
Driver
Driver
Driver
Driver
Driver
Differential amp.
Differential amp.
Differential amp.
Differential amp.
Differential amp.
Constant current
Reference voltage
+B
IC804
AN6875
Dimension display
To loop filter (Q901 ~ 903)
To RLY1003
To RLY1001
+B
+B
Rectifier
To power amp.
+B
Regulator
-B
Regulator
Power transformer
AC line

■ REPLACEMENT PARTS LIST...Electric Parts

Notes:

1. Part numbers are indicated on must mechanical parts. Please use this part number of parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.
3. Bracket indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
4. Ⓚ -marked parts are used for black only, while ○-marked parts are for silver type only.
5. Parts other than Ⓚ and ○-marked are used for both black and silver types.

INTEGRATED CIRCUITS

Ref. No.		Part No.	Part Name & Description
IC101		RVIUPC1018CF	IC, FM IF/AM IF Amplifier
IC102		SVILA1231NS	IC, FM IF Amplifier
IC301		SVIUPC1161C3	IC, FM Multiplex
IC401, 501		SVINJM4559DD	IC, Equalizer, Operation Amplifier
IC601, 803		SVINJM4558DG	IC, Operation Amplifier
IC801, 802		SVINJM4558DS	IC, Operation Amplifier
IC804		AN6875	IC, Dimension Display
IC871, 872		SVIIR2E01	IC, Power LED Display
IC901		SVID1704C011	IC, Micro-Computer
IC902		SVIUPB553AC	IC, Pre-Scaler
IC903		SVIMSL915RS	IC, FL Driver
IC904		SVIM74LS42P	IC, Decoder
IC905		AN6876	IC, LED Driver
IC1002		SVITA7317P	IC, Relay Drive

TRANSISTORS

Ref. No.		Part No.	Part Name & Description
Q1		3SK74–L1	Transistor, FM RF Amplifier
Q2		**2SC1674–M**	Transistor, Mixer
Q3, 4, 5		**2SC1675–L**	Transistor, Buffer, Oscillator
Q6, 112, 901 ~ 903		**2SC945–Q**	Transistor, Buffer, Switching, Loop Filter
Q101		**2SC829–C1**	Transistor, FM IF, Switching
Q105, 106, 108 109, 111, 202 617, 618, 709 710, 712, 713 801 ~ 806, 811 813 ~ 815, 905		2SC1815–Y	Transistor, Switching
Q107, 113, 114 201, 303, 619 620, 705, 906 907, 908		2SA1015–Y	Transistor, Switching, DC Amplifier
Q301, 302, 718 812		**2SC1383Q**	Transistor, Muting
Q401 ~ 404 601 ~ 604		2SK170–GR	Transistor
Q605, 606, 609 610		2SA992	Transistor, Current Mirror
Q607, 608		2SC2259–G	Transistor, Differential Amplifier
Q611, 612		2SA921–T	Transistor, Pre-Driver
Q613, 614		2SA1124–R	Transistor, Pre-Driver
Q615, 616		2SC2632–R	Transistor, Current Stabilier
Q621 ~ 624		2SD661–S	Transistor, ICQ & Synchronous Bias
Q625, 626		2SB745–S	Transistor, Drive
Q627, 628		2SC2632–R	Transistor, Drive } Use in Pair ranks
Q629, 630		2SA1124–R	Transistor, Drive } Use in Pair ranks
Q631, 632		**2SC1913A–R**	Transistor, Power Amplifier } Use in pair ranks
Q633, 634		2SA913A–R	Transistor, Power Amplifier } Use in pair ranks
Q635, 636		2SD845–R	Transistor, Power Amplifier } Use in pair ranks
Q637, 638		2SB755–R	Transistor, Power Amplifier } Use in pair ranks
Q701, 702, 707		2SK34–D1	Transistor, Regulator
Q703		**2SD381–L**	Transistor, Regulator
Q704		**2SB536–L**	Transistor, Regulator
Q708, 711		2SD880–Y	Transistor, Synchronous
Q714, 716		**2SC1318–R**	Transistor, Motor Drive
Q715, 717		**2SA720–R**	Transistor, Motor Drive
Q807 ~ 810		**2SA684–QNC**	Transistor, Lamp Drive

DIODES

Ref. No.		Part No.	Part Name & Description
D1, 2, 3, 4		SVDSVC211	Diode, Variable Capacitor (for FM)
D103 ~ 108, 203 204, 206, 207 405 ~ 408, 502 603, 604 607 ~ 614 720, 721, 724 725, 802, 901 904 ~ 912 916 ~ 924, 941 942, 1002		**MA162A**	Diode, Switching
D201		SVDBB312E	Diode, Variable Capacitor (for AM)
D205		**20A90**	Diode, Synchronous Bias
D401 ~ 403 804, 871, 872 880, 881		LN217RP	Light Emitting Diode, Red
D605, 606, 719		MA27B	Diode, Current Stabilizer
D615 ~ 622, 903 915		**2–OA99**	Diode, Synchronous Bias
D701	⚠	SVDS10VB20F	Rectifier
D702 ~ 705, 708 711, 715, 717, 718 723, 1001	⚠	**SVDSR1K2**	Rectifier
D706		SVDMZ318A2	Diode, 18V Zener
D709, 710, 803		SVDMZ316B	Diode, 16V Zener
D712		SVDMZ327B	Diode, 27V Zener
D876		LN317GP	Light Emitting Diode, Green
D716		SVDMZ306C1	Diode, 6V Zener
D722		**RVDRD9R1FB**	Diode, 9.1V Zener
D801		**MA27A2**	Diode
D873, 874, 875 877, 878, 879		LN417YP	Light Emitting Diode, Yellow
D925		SVDMZ306B	Diode, 6V Zener
D926 ~ 932		LN831RP	Light Emitting Diode, Red
D933, 934, 935	○	SVDPR5533K–1	Light Emitting Diode, Red
D936, 937	○	SVDBG5533K–1	Light Emitting Diode, Green
D933 ~ 937 [PC] only	Ⓚ	SVDAY5533K–1	Light Emitting Diode, Yellow
D938		LN220RP	Light Emitting Diode, Red

COILS and TRANSFORMERS

Ref. No.		Part No.	Part Name & Description
L1		SLAA4W1–3	Coil, FM Antenna
L2		SLA4P39	Coil, FM Antenna
L3		SLD4P53–P	Coil, FM Detector
L4		SLD4P43	Coil, FM Detector
L5		SLO4N21	Coil, FM Oscillator
L6		RLQY15G5–O	Coil, Choke
L8		SLQX39G–M	Coil, Choke
L201		SLF2D69–2	Coil, AM Ferrite Bar Antenna
L202		SLO2C29–P	Coil, AM Oscillator
L301		SLMA1Z3–Z	Coil
L601, 602		SLQY15G–30	Coil, Choke
L701, 702		SLQX391–P	Coil, Choke
L901		RLQY25S5–O	Coil, Choke
T2		SLI4C109	Transformer, FM IF
T101		SLI4C523–Z	Transformer, FM IF
T102		SLI4C525–Z	Transformer, FM IF
T201		SLI2C450R–M	Transformer, AM IF
T202		SLI2C127–M	Transformer, AM IF
T701	⚠	SLT5Q129	Transformer, Power Source

CERAMIC FILTERS

Ref. No.		Part No.	Part Name & Description
CF101, 105		SVFE107MM–A	Ceramic Filter, FM 10.7MHz, Red
CF104		SVFE107MX2–A	Ceramic Filter, FM 10.7MHz, Red
CF201		SVFSFP450HT	Ceramic Filter, AM 450kHz

VARIABLE RESISTORS

Ref. No.		Part No.	Part Name & Description
VR2		EUWMDD063B54	Motor Volume Control, 50kΩ (B)
VR3		EWGGPA066375	Balance Control
VR4		EWJFC0066C15	Treble Control, 100kΩ (C)
VR5		EWJFCY066530	Bass Control
VR101		**EVTS3MA00B54**	Muting Level Adjustment, 50kΩ (B)
VR102		**EVNM4AA00B53**	FM Meter Adjustment, 5kΩ (B)
VR103		**EVNM4AA00B15**	AM Meter Adjustment, 100kΩ (B)
VR301		**EVTS3MA00B14**	VCO Adjustment, 10kΩ (B)
VR302		EVNM4AA00B55	Separation Adjustment, 500kΩ (B)
VR601, 602		**EVTS3MA00B32**	ICQ Adjustment, 300Ω (B)
VR603, 604		**EVTS3MA00B13**	DC Adjustment, 1kΩ (B)
VR701		**EVNM0AA00B14**	Motor Adjustment, 10kΩ (B)
VR801		EWKH3A066B14	Ambiance Control, 10kΩ (B)

COMPONENT COMBINATIONS

Ref. No.		Part No.	Part Name & Description
Z1		EXRP102Z223C	Component Combination, 0.001μF, 22kΩ
Z101		EXRP103P472C	Component Combination, 0.01μF, 4.7kΩ
Z201		EXRF203Z471S	Component Combination, 0.02μF, 470Ω
Z601, 602	⚠	ERF3GBKR22N	Component Combination, 3W, 0.22Ω (x 2)
Z701 ~ 704		SXRFS203ZSM	Component Combination, 0.01μF, (x 2)
Z901, 902		EXFP7331MW	Component Combination, 330pF, (x 7)
Z903		EXBP87104K	Component Combination, 100kΩ, (x 7)

VARIABLE CAPACITORS

Ref. No.		Part No.	Part Name & Description
CT1		ECV1ZW06X53N	Trimmer, FM Oscillator
CT201, 202		ECV1ZW20X53N	Trimmer, AM Antenna, AM Oscillator

CRYSTAL

Ref. No.		Part No.	Part Name & Description
X901		SVQ43U452	Crystal, 4.5MHz Counter Oscillator

FLUORESCENT DISPLAY TUBE

Ref. No.		Part No.	Part Name & Description
FL		SAD7MT09UZA	Fluorescent Display Tube

THERMISTERS

Ref. No.		Part No.	Part Name & Description
TH601, 602		ERTD2ZHL332S	Thermistor, Thermal Compensation, 3.3kΩ
TH701		ERTD2ZHL103S	Thermistor, Thermal Compensation, 10kΩ

RELAY

Ref. No.		Part No.	Part Name & Description
RLY1001	⚠	SSY69	Relay, Speaker protection

FUSES

Ref. No.		Part No.	Part Name & Description
F1	⚠	XBA2C50TR0	Fuse, T5A (250V)
F2	⚠	XBA2C25TR0	Fuse, T2.5A (250V)
F3	⚠	XBA2C20TR0	Fuse, T2A (250V)
F4	⚠	XBA2C10TR0	Fuse, T1.0A (250V)

LAMPS

Ref. No.		Part No.	Part Name & Description
PL1	⚠	XAMR73S200A	Lamp, Meter, 0.25A (6.3V)
PL2	⚠	XAMR53S	Lamp, Motor Volume, 0.25A (6.3V)
PL3, 801 ~ 805	⚠	XAMR88S10	Lamp, Dimension, 0.15A (6.3V)

METERS

Ref. No.		Part No.	Part Name & Description
	○	SSM173–8	Meter Frequency
[PC] only	Ⓚ	SSM173–3	Meter Frequency

SWITCHES

Ref. No.		Part No.	Part Name & Description
S1 ~ 3		SSH3007	Switch, Input Selector
S5 ~ 10		SSH625	Switch, Rec Mode, Tape Selector Tape Monitor, Audio, Muting Loudness and Dimension Control
S11 ~ 17		SSH541	Switch, Operation, Filter, AM Mode FM Muting/Mode, FM Band and Automatic-scan
S18, 19		SSH2017	Switch, Speaker Selector
S20	⚠	ESB90619S	Switch, Power Source
S21		SSS53	Switch, Power Display
S22		SSS43	Switch, FM/AM Allocation
S23	⚠	ESE37200	Switch, Voltage Selector
S31 ~ 42		SSG1	Switch, Band Selector, Tuning, Memory and Preset Tuning
S43, 45		SSG5	Switch, Volume Control

RESISTORS

Ref. No.		Part No.	Part Name & Description
R1	⚠	**ERD50TJ823**	Carbon, 1/2W, 82kΩ, ± 5%
R2	⚠	**ERD50FJ472**	Carbon, 1/2W, 4.7kΩ, ± 5%
R3		**ERD25TJ823**	Carbon, 1/4W, 82kΩ, ± 5%
R4		**ERD25TJ183**	Carbon, 1/4W, 18kΩ, ± 5%
R5, 6		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R7		**ERD25TJ563**	Carbon, 1/4W, 56kΩ, ± 5%
R8		**ERD25FJ100**	Carbon, 1/4W, 10Ω, ± 5%
R9		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R10, 11		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R12		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R13		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R14		**ERD25FJ221**	Carbon, 1/4W, 220Ω, ± 5%
R15		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R16		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R17		**ERD25FJ152**	Carbon, 1/4W, 1.5kΩ, ± 5%
R18		**ERD25TJ154**	Carbon, 1/4W, 150kΩ, ± 5%
R19		**ERD25FJ221**	Carbon, 1/4W, 220Ω, ± 5%
R20		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R21		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R22		**ERD25FJ152**	Carbon, 1/4W, 1.5kΩ, ± 5%
R23		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R101		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R102		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R103		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R104		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R106		**ERD25TJ563**	Carbon, 1/4W, 56kΩ, ± 5%
R107		**ERD25FJ470**	Carbon, 1/4W, 47Ω, ± 5%
R116		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R117, 118		**ERD25FJ391**	Carbon, 1/4W, 390Ω, ± 5%
R119		**ERO25CKF1502**	Metal Film, 1/4W, 15kΩ, ± 1%
R120		**ERO25CKF2702**	Metal Film, 1/4W, 27kΩ, ± 1%
R121		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R122		**ERD25FJ822**	Carbon, 1/4W, 8.2kΩ, ± 5%
R123		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R124		**ERD25FJ470**	Carbon, 1/4W, 47Ω, ± 5%
R125		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R126		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R127		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R128		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R129		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R130		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R131		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R132		**ERD25FJ222**	Carbon, 1/4W, 2.2kΩ, ± 5%
R133		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R134		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R135		**ERD25FJ681**	Carbon, 1/4W, 680Ω, ± 5%
R136		**ERD25TJ473**	Carbon, 1/4W, 47kΩ, ± 5%
R137		**ERD25FJ392**	Carbon, 1/4W, 3.9kΩ, ± 5%
R138		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R139, 140		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R141		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R142		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R143		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R144		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R145		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R146		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R148		**ERD25TJ473**	Carbon, 1/4W, 47kΩ, ± 5%
R149		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R150		**ERD25TJ823**	Carbon, 1/4W, 82kΩ, ± 5%
R151		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R152, 153		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R155		**ERD25TJ154**	Carbon, 1/4W, 150kΩ, ± 5%
R201, 202		**ERD25FJ391**	Carbon, 1/4W, 390Ω, ± 5%
R203		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R204		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R205		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R206		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R208, 209		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R210		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R212		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R213		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R214		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R215		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R216		**ERO25CKF1203**	Metal Film, 1/4W, 120kΩ, ± 1%
R217		**ERD25TJ183**	Carbon, 1/4W, 18kΩ, ± 5%
R218		**ERD25FJ822**	Carbon, 1/4W, 8.2kΩ, ± 5%
R219		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R220		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R221		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%

Ref. No.	
R222	
R223	
R234	
R235	
R301, 302	
R303, 304	
R305, 306	
R307, 308	
R309, 310	
R311, 312	
R313	
R314	
R315	
R316	
R317	
R318	
R319	
R320	
R401, 402	
R405, 406	
R407, 408	
R409, 410	
R411, 412	
R413, 414	
R417, 418	
R419, 420	
R421, 422	
R423, 424	
R425, 426	
R427, 428	
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R431, 432	
R501, 502	
R503, 504	
R505, 506	
R507, 508	
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R611, 612	
R613, 614	
R615, 616	⚠
R617, 618	⚠
R619, 620	
R621, 622	⚠
R623, 624	⚠
R625, 626	⚠
R627, 628	
R629, 630	⚠
R631, 632	
R633, 634	⚠
R635, 636	
R637, 638	
R639, 640	
R641, 642	
R643, 644	⚠
R645, 646	
R647, 648	⚠

Ref. No.		Part No.	Part Name & Description
RESISTORS			
R1	⚠	**ERD50TJ823**	Carbon, 1/2W, 82kΩ, ± 5%
R2	⚠	**ERD50FJ472**	Carbon, 1/2W, 4.7kΩ, ± 5%
R3		**ERD25TJ823**	Carbon, 1/4W, 82kΩ, ± 5%
R4		**ERD25TJ183**	Carbon, 1/4W, 18kΩ, ± 5%
R5, 6		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R7		**ERD25TJ563**	Carbon, 1/4W, 56kΩ, ± 5%
R8		**ERD25FJ100**	Carbon, 1/4W, 10Ω, ± 5%
R9		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R10, 11		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R12		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R13		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R14		**ERD25FJ221**	Carbon, 1/4W, 220Ω, ± 5%
R15		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R16		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R17		**ERD25FJ152**	Carbon, 1/4W, 1.5kΩ, ± 5%
R18		**ERD25TJ154**	Carbon, 1/4W, 150kΩ, ± 5%
R19		**ERD25FJ221**	Carbon, 1/4W, 220Ω, ± 5%
R20		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R21		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R22		**ERD25FJ152**	Carbon, 1/4W, 1.5kΩ, ± 5%
R23		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R101		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R102		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R103		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R104		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R106		**ERD25TJ563**	Carbon, 1/4W, 56kΩ, ± 5%
R107		**ERD25FJ470**	Carbon, 1/4W, 47Ω, ± 5%
R116		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R117, 118		**ERD25FJ391**	Carbon, 1/4W, 390Ω, ± 5%
R119		**ERO25CKF1502**	Metal Film, 1/4W, 15kΩ, ± 1%
R120		**ERO25CKF2702**	Metal Film, 1/4W, 27kΩ, ± 1%
R121		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R122		**ERD25FJ822**	Carbon, 1/4W, 8.2kΩ, ± 5%
R123		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R124		**ERD25FJ470**	Carbon, 1/4W, 47Ω, ± 5%
R125		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R126		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R127		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R128		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R129		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R130		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R131		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R132		**ERD25FJ222**	Carbon, 1/4W, 2.2kΩ, ± 5%
R133		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R134		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R135		**ERD25FJ681**	Carbon, 1/4W, 680Ω, ± 5%
R136		**ERD25TJ473**	Carbon, 1/4W, 47kΩ, ± 5%
R137		**ERD25FJ392**	Carbon, 1/4W, 3.9kΩ, ± 5%
R138		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R139, 140		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R141		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R142		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R143		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R144		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R145		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R146		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R148		**ERD25TJ473**	Carbon, 1/4W, 47kΩ, ± 5%
R149		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R150		**ERD25TJ823**	Carbon, 1/4W, 82kΩ, ± 5%
R151		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R152, 153		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R155		**ERD25TJ154**	Carbon, 1/4W, 150kΩ, ± 5%
R201, 202		**ERD25FJ391**	Carbon, 1/4W, 390Ω, ± 5%
R203		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R204		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R205		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R206		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R208, 209		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R210		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R212		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R213		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R214		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R215		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R216		**ERO25CKF1203**	Metal Film, 1/4W, 120kΩ, ± 1%
R217		**ERD25TJ183**	Carbon, 1/4W, 18kΩ, ± 5%
R218		**ERD25FJ822**	Carbon, 1/4W, 8.2kΩ, ± 5%
R219		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R220		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R221		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%

Ref. No.		Part No.	Part Name & Description
R222		**ERD25TJ683**	Carbon, 1/4W, 68kΩ, ± 5%
R223		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R234		**ERD25TJ154**	Carbon, 1/4W, 150kΩ, ± 5%
R235		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R301, 302		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R303, 304		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R305, 306		**ERD25TJ473**	Carbon, 1/4W, 47kΩ, ± 5%
R307, 308		**ERD25FJ392**	Carbon, 1/4W, 3.9kΩ, ± 5%
R309, 310		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R311, 312		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R313		**ERD25FJ220**	Carbon, 1/4W, 22Ω, ± 5%
R314		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R315		**ERD25FJ221**	Carbon, 1/4W, 220Ω, ± 5%
R316		**ERD25FJ100**	Carbon, 1/4W, 10Ω, ± 5%
R317		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R318		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R319		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R320		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R401, 402		**ERO25CKF4702**	Metal Film, 1/4W, 47kΩ, ± 1%
R405, 406		**ERD25FJ220**	Carbon, 1/4W, 22Ω, ± 5%
R407, 408		**ERO25CKF4701**	Metal Film, 1/4W, 4.7kΩ, ± 1%
R409, 410		**ERO25CKF4701**	Metal Film, 1/4W, 4.7kΩ, ± 1%
R411, 412		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R413, 414		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R417, 418		**ERD25FJ121**	Carbon, 1/4W, 120Ω, ± 5%
R419, 420		**ERD25FJ121**	Carbon, 1/4W, 120Ω, ± 5%
R421, 422		**ERO25CKF6802**	Metal Film, 1/4W, 68kΩ, ± 1%
R423, 424		**ERO25CKF5601**	Metal Film, 1/4W, 5.6kΩ, ± 5%
R425, 426		**ERD25TJ334**	Carbon, 1/4W, 330kΩ, ± 5%
R427, 428		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R429		**ERD25FJ152**	Carbon, 1/4W, 1.5kΩ, ± 5%
R430		**ERD25FJ271**	Carbon, 1/4W, 270Ω, ± 5%
R431, 432		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R501, 502		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R503, 504		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R505, 506		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R507, 508		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R509, 510		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R511, 512		**ERD25FJ392**	Carbon, 1/4W, 3.9kΩ, ± 5%
R513, 514		**ERD25FJ682**	Carbon, 1/4W, 6.8kΩ, ± 5%
R515, 516		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R519, 520		**ERD25TJ224**	Carbon, 1/4W, 220kΩ, ± 5%
R521, 522		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R523, 524		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R525, 526		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R527, 528		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R529, 530		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R531, 532		**ERD25TJ183**	Carbon, 1/4W, 18kΩ, ± 5%
R533, 534		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R535, 536		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R539, 540		**ERD25TJ474**	Carbon, 1/4W, 470kΩ, ± 5%
R541, 542		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R543, 544		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R551, 552		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R553, 554		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R601, 602		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R603, 604		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R605, 606		**ERD25FJ682**	Carbon, 1/4W, 6.8kΩ, ± 5%
R607, 608		**ERD25FJ682**	Carbon, 1/4W, 6.8kΩ, ± 5%
R609, 610		**ERD25FJ222**	Carbon, 1/4W, 2.2kΩ, ± 5%
R611, 612		**ERD25TJ224**	Carbon, 1/4W, 220kΩ, ± 5%
R613, 614		**ERO25CKF4702**	Metal Film, 1/4W, 47kΩ, ± 1%
R615, 616	⚠	**ERD25FJ391**	Carbon, 1/4W, 390Ω, ± 5%
R617, 618	⚠	**ERD25FJ681**	Carbon, 1/4W, 680Ω, ± 5%
R619, 620		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R621, 622	⚠	**ERD25FJ100**	Carbon, 1/4W, 10Ω, ± 5%
R623, 624	⚠	**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R625, 626	⚠	**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R627, 628		**ERD25FJ390**	Carbon, 1/4W, 39Ω, ± 5%
R629, 630	⚠	**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R631, 632		**ERD25FJ392**	Carbon, 1/4W, 3.9kΩ, ± 5%
R633, 634	⚠	**ERD25FJ330**	Carbon, 1/4W, 33kΩ, ± 5%
R635, 636		**ERD25FJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R637, 638		**ERD25TJ394**	Carbon, 1/4W, 390kΩ, ± 5%
R639, 640		**ERD25TJ473**	Carbon, 1/4W, 47kΩ, ± 5%
R641, 642		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R643, 644	⚠	**ERD25FJ820**	Carbon, 1/4W, 82Ω, ± 5%
R645, 646		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R647, 648	⚠	**ERD25FJ680**	Carbon, 1/4W, 68Ω, ± 5%

Ref. No.		Part No.	Part Name & Description
R649, 650	⚠	**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R651, 652		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R653, 654		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R655, 656	⚠	**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R657, 658		**ERD25FJ391**	Carbon, 1/4W, 390Ω, ± 5%
R659, 660	⚠	**ERD25FJ471**	Carbon, 1/4W, 470Ω, ± 5%
R661, 662	⚠	**ERD25FJ471**	Carbon, 1/4W, 470Ω, ± 5%
R663, 664		**ERG1ANJ822**	Metal Oxide, 1W, 8.2kΩ, ± 5%
R665, 666	⚠	**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R667, 668	⚠	**ERD25FJ152**	Carbon, 1/4W, 1.5kΩ, ± 5%
R669, 670	⚠	**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R671, 672		**ERG1ANJ822**	Carbon, 1W, 8.2kΩ, ± 5%
R673, 674	⚠	**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R675, 676		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R677, 678	⚠	**ERD25FJ221**	Carbon, 1/4W, 220Ω, ± 5%
R679, 680	⚠	**ERD25FJ5R6**	Carbon, 1/4W, 5.6Ω, ± 5%
R681, 682	⚠	**ERD25FJ5R6**	Carbon, 1/4W, 5.6Ω, ± 5%
R683, 684	⚠	**ERD25FAJ2R2**	Carbon, 1/4W, 2.2Ω, ± 5%
R685, 686	⚠	**ERD25FAJ2R2**	Carbon, 1/4W, 2.2Ω, ± 5%
R687, 688		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R689, 690		**ERG1ANJ100**	Metal Oxide, 1W, 10Ω, ± 5%
R691, 692		**ERG1ANJ100**	Metal Oxide, 1W, 10Ω, ± 5%
R693, 694		**ERG2ANJ331**	Metal Oxide, 2W, 330Ω, ± 5%
R701, 702		**ERG2ANJ181**	Metal Oxide, 2W, 180Ω, ± 5%
R703		**ERO25CKF1202**	Metal Film, 1/4W, 12kΩ, ± 1%
R704		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R705		**ERO25CKF1202**	Metal Film, 1/4W, 12kΩ, ± 1%
R707		**ERG1ANJ272**	Metal Oxide, 1W, 2.7kΩ, ± 5%
R708	⚠	**ERD50FJ562**	Carbon, 1/2W, 5.6kΩ, ± 5%
R709		**ERG3ANJ561**	Metal Oxide, 3W, 560Ω, ± 5%
R710		**ERG2ANJ102**	Metal Oxide, 2W, 1kΩ, ± 5%
R712		**ERG1ANJ152**	Metal Oxide, 1W, 1.5kΩ, ± 5%
R713	⚠	**ERD50FJ392**	Carbon, 1/2W, 3.9kΩ, ± 5%
R717		**ERG1ANJ100**	Metal Oxide, 1W, 10Ω, ± 5%
R718		**ERG1ANJ331**	Metal Oxide, 1W, 330Ω, ± 5%
R719	⚠	**ERD50FJ100**	Carbon, 1/2W, 10Ω, ± 5%
R720		**ERD25FJ222**	Carbon, 1/4W, 2.2kΩ, ± 5%
R721		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R722		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R723		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R725		**ERD25FJ472**	Carbon, 1/4W, 4.7kΩ, ± 5%
R726		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R727		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R728, 729		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R730		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R731, 732		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R733		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R734		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R735		**ERD25FJ682**	Carbon, 1/4W, 6.8kΩ, ± 5%
R736		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R737		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R738		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R739		**ERD25FJ152**	Carbon, 1/4W, 1.5kΩ, ± 5%
R751		**ERD25FJ222**	Carbon, 1/4W, 2.2kΩ, ± 5%
R752		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R801, 802		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R803, 804		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R805, 806		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R807, 808		**ERD25TJ683**	Carbon, 1/4W, 68kΩ, ± 5%
R809, 810		**ERD25TJ393**	Carbon, 1/4W, 39kΩ, ± 5%
R811, 812		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R813, 814		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R815, 816		**ERD25TJ123**	Carbon, 1/4W, 12kΩ, ± 5%
R817, 818		**ERD25TJ563**	Carbon, 1/4W, 56kΩ, ± 5%
R819, 820		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R821, 822		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R823, 824		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R825, 826		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R827, 828		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R829, 830		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R831, 832		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R833, 834		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R835, 836		**ERD25TJ183**	Carbon, 1/4W, 18kΩ, ± 5%
R837, 838		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R839, 840		**ERD25TJ823**	Carbon, 1/4W, 82kΩ, ± 5%
R841, 842		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R843, 844		**ERD25TJ473**	Carbon, 1/4W, 47kΩ, ± 5%
R845		**ERD25TJ564**	Carbon, 1/4W, 560kΩ, ± 5%
R846		**ERD25FJ272**	Carbon, 1/4W, 2.7kΩ, ± 5%
R847		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R848		**ERD25TJ224**	Carbon, 1/4W, 220kΩ, ± 5%

Ref. No.		Part No.	Part Name & Descriprion
R849		**ERD25TJ564**	Carbon, 1/4W, 560kΩ, ± 5%
R850		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R851		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R852		**ERD25FJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R853, 854		**ERG1ANJ101**	Metal Oxide, 1W, 100Ω, ± 5%
R855		**ERG1ANJ101**	Metal Oxide, 1W, 100Ω, ± 5%
R856, 857		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R858		**ERD25FJ822**	Carbon, 1/4W, 8.2kΩ, ± 5%
R859		**ERD25TJ123**	Carbon, 1/4W, 12kΩ, ± 5%
R863, 864		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R865, 866		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R871, 872		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R873, 874		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R875, 876		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R877, 878		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R879, 880		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R881, 882		**ERD25FJ682**	Carbon, 1/4W, 6.8kΩ, ± 5%
R883, 884		**ERD25FJ682**	Carbon, 1/4W, 6.8kΩ, ± 5%
R885		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R886		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R887		**ERD25FJ471**	Carbon, 1/4W, 470Ω, ± 5%
R888		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R889		**ERD25TJ683**	Carbon, 1/4W, 68kΩ, ± 5%
R890		**ERD25FJ680**	Carbon, 1/4W, 68Ω, ± 5%
R891		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R892		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R893, 894		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R895, 896		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R897, 898		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R901		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R902		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R903, 904		**ERD25FJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R905		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R906		**ERD25FJ822**	Carbon, 1/4W, 8.2kΩ, ± 5%
R907		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R908		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R909		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R910		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R911		**ERD25TJ683**	Carbon, 1/4W, 68kΩ, ± 5%
R912		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R913		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R914		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R915		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R916, 917		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R918		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R919		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R919 [PC (K)] only	Ⓚ	**ERD25FJ222**	Carbon, 1/4W, 2.2kΩ, ± 5%
R920		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R922		**ERD25FJ221**	Carbon, 1/4W, 220Ω, ± 5%
R923		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R924		**ERD25FJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R925		**ERD25FJ100**	Carbon, 1/4W, 10Ω, ± 5%
R950		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R1043		**ERD25TJ154**	Carbon, 1/4W, 150Ω, ± 5%
R1045, 1046		**ERD25TJ683**	Carbon, 1/4W, 68kΩ, ± 5%
R1047		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R1048		**ERD25TJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R1049		**ERD25TJ154**	Carbon, 1/4W, 150kΩ, ± 5%
R1050		**ERD25FJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R1052		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
CAPACITORS			
C1		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C2		ECCD1H010CC	Ceramic, 50V, 1pF, ±0.25pF
C3		ECCD1H040CC	Ceramic, 50V, 4pF, ±0.25pF
C4, 5		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C6		ECCD1H030CC	Ceramic, 50V, 3pF, ±0.25pF
C7		ECGN5R22K	Ceramic, 500V, 0.22pF, ± 10%
C8		ECCD1H040CC	Ceramic, 50V, 4pF, ±0.25pF
C9		ECCD1H050CC	Ceramic, 50V, 5pF, ±0.25pF
C10		ECCD1H040CC	Ceramic, 50V, 4pF, ±0.25pF
C11		ECCD1H181K	Ceramic, 50V, 180pF, ± 10%
C12		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C13		ECCD1H040CC	Ceramic, 50V, 4pF, ±0.25pF
C14		ECCD1H060CC	Ceramic, 50V, 6pF, ±0.25pF
C15		ECCD1H220KC	Ceramic, 50V, 22pF, ± 10%
C16		ECCD1H070DC	Ceramic, 50V, 7pF, ± 0.5pF
C17		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C18		ECCD1H060CC	Ceramic, 50V, 6pF, ±0.25pF
C19		ECCD1H020CC	Ceramic, 50V, 2pF, ±0.25pF
C20		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C21		ECCD1H020CC	Ceramic, 50V, 2pF, ±0.25pF

Ref. No.		Part No.
C22		ECKD1H102ZF
C23		ECKD1H103ZF
C24		**ECEA1HS100**
C25, 26		ECKD1H102ZF
C27, 28		ECKD1H102MD
C29		ECKD1H103ZF
C101, 102		ECKD1H103ZF
C107		ECKD1H102ZF
C108, 109		ECKD1H223ZF
C110, 111		ECKD1H103ZF
C112		ECKD1H103ZF
C113		ECCD1H101K
C114		**ECEA50ZR47**
C115		ECCD1H820K
C116		ECKD1H103ZF
C117		**ECEA1HS100**
C118		ECKD1H223ZF
C119, 120		ECKD1H103ZF
C121		**ECEA50ZR47**
C122, 123		**ECEA50Z1**
C124		**ECEA1HS100**
C125		**ECEA50Z3R3**
C201		ECKD1H223ZF
C202		ECQM1H473JZ
C204		ECQP1471JZ
C205		ECKD1H103ZF
C206		ECKD1H223ZF
C207		**ECEA1AS470**
C208, 209		**ECEA1HS100**
C210		ECKD1H103ZF
C212		ECCD1H120KC
C213		ECKD1H223ZF
C214		ECQM1H103JZ
C215		**ECEA50Z1**
C217, 218		ECKD1H103ZF
C301		**ECEA50M4R7R**
C302		**ECEA1CS471**
C303, 304		**ECEA1AS470**
C305, 306		ECQM1H152JZ
C307, 308		**ECEA50Z3R3**
C309, 310		ECQM1H182JZ
C311		**ECEA50Z1**
C312		ECQM1H223JZ
C313		**ECEA50ZR47**
C314		**ECEA50Z1**
C315		**ECEA50Z3R3**
C316		ECQP1471JZ
C317		ECKD1H103ZF
C318		ECQM1H473JZ
C319		ECCD1H101K
C401, 402		ECCD1H820K
C403, 404		FCKD1H821KB
C405, 406		**ECEA1AS331**
C407, 408		ECQP1473GZ
C409, 410		ECQP1103GZ
C411, 412		ECQM1H332JZ
C413, 414	⚠	**ECEA1EN3R3S**
C415, 416		ECQM1H473JZ
C417		**ECEA25Z4R7**
C418		**ECEA1ES101**
C421, 422		ECCD1H680K
C501, 502		ECKD1H331KB
C503, 504		ECQM1H563JZ
C505, 506		**ECEA50M1R**
C507, 508		ECCD1H390K
C509, 510		ECCD1H220K
C511, 512	⚠	**ECEA25N4R7**
C513, 514		ECQM1H332JZ
C515, 516		ECQM1H333JZ
C517, 518		**ECEA50Z4R7**
C519, 520		ECQM1H183JZ
C521, 522		ECQM1H104JZ
C523, 524		ECQM1H274JZ
C525, 526		ECQM1H103JZ
C601, 602		ECCD1H560K
C603, 604		ECCD2H100K
C605, 606	⚠	ECEA1EN3R3S
C607, 608	⚠	ECEA1EN3R3S
C609, 610		ECQM1H152JZ
C611, 612	⚠	ECEA0JN221S
C613, 614		ECCD2H070D
C615, 616		**ECEA2AS101**

Part Name & Description
, 1/4W, 100Ω, ± 5%
, 1/4W, 4.7kΩ, ± 5%
, 1/4W, 4.7kΩ, ± 5%
, 1/4W, 2.7kΩ, ± 5%
, 1/4W, 390Ω, ± 5%
, 1/4W, 470Ω, ± 5%
, 1/4W, 470Ω, ± 5%
xide, 1W, 8.2kΩ, ± 5%
, 1/4W, 820Ω, ± 5%
, 1/4W, 1.5kΩ, ± 5%
, 1/4W, 820Ω, ± 5%
, 1W, 8.2kΩ, ± 5%
, 1/4W, 1kΩ, ± 5%
, 1/4W, 27kΩ, ± 5%
, 1/4W, 220Ω, ± 5%
, 1/4W, 5.6Ω, ± 5%
, 1/4W, 5.6Ω, ± 5%
, 1/4W, 2.2Ω, ± 5%
, 1/4W, 2.2Ω, ± 5%
, 1/4W, 22kΩ, ± 5%
xide, 1W, 10Ω, ± 5%
xide, 1W, 10Ω, ± 5%
xide, 2W, 330Ω, ± 5%
xide, 2W, 180Ω, ± 5%
ilm, 1/4W, 12kΩ, ± 1%
, 1/4W, 560Ω, ± 5%
ilm, 1/4W, 12kΩ, ± 1%
xide, 1W, 2.7kΩ, ± 5%
1/2W, 5.6kΩ, ± 5%
xide, 3W, 560Ω, ± 5%
xide, 2W, 1kΩ, ± 5%
xide, 1W, 1.5kΩ, ± 5%
, 1/2W, 3.9kΩ, ± 5%
xide, 1W, 10Ω, ± 5%
xide, 1W, 330Ω, ± 5%
1/2W, 10Ω, ± 5%
1/4W, 2.2kΩ, ± 5%
1/4W, 2.7kΩ, ± 5%
1/4W, 3.3kΩ, ± 5%
1/4W, 4.7kΩ, ± 5%
1/4W, 4.7kΩ, ± 5%
1/4W, 3.3kΩ, ± 5%
1/4W, 1kΩ, ± 5%
1/4W, 100Ω, ± 5%
1/4W, 3.3kΩ, ± 5%
, 1/4W, 100Ω, ± 5%
, 1/4W, 3.3kΩ, ± 5%
, 1/4W, 820Ω, ± 5%
, 1/4W, 6.8kΩ, ± 5%
, 1/4W, 100kΩ, ± 5%
, 1/4W, 33kΩ, ± 5%
, 1/4W, 820Ω, ± 5%
, 1/4W, 1.5kΩ, ± 5%
1/4W, 2.2kΩ, ± 5%
1/4W, 820Ω, ± 5%
1/4W, 100kΩ, ± 5%
1/4W, 33kΩ, ± 5%
1/4W, 33kΩ, ± 5%
1/4W, 68kΩ, ± 5%
1/4W, 39kΩ, ± 5%
1/4W, 3.3kΩ, ± 5%
1/4W, 3.3kΩ, ± 5%
1/4W, 12kΩ, ± 5%
1/4W, 56kΩ, ± 5%
1/4W, 10kΩ, ± 5%
1/4W, 3.3kΩ, ± 5%
1/4W, 3.3kΩ, ± 5%
1/4W, 27kΩ, ± 5%
1/4W, 10kΩ, ± 5%
1/4W, 27kΩ, ± 5%
1/4W, 22kΩ, ± 5%
1/4W, 10kΩ, ± 5%
1/4W, 18kΩ, ± 5%
1/4W, 33kΩ, ± 5%
1/4W, 82kΩ, ± 5%
1/4W, 33kΩ, ± 5%
1/4W, 47kΩ, ± 5%
1/4W, 560kΩ, ± 5%
1/4W, 2.7kΩ, ± 5%
1/4W, 15kΩ, ± 5%
1/4W, 220kΩ, ± 5%

Ref. No.		Part No.	Part Name & Descripion
R849		**ERD25TJ564**	Carbon, 1/4W, 560kΩ, ± 5%
R850		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R851		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R852		**ERD25FJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R853, 854		**ERG1ANJ101**	Metal Oxide, 1W, 100Ω, ± 5%
R855		**ERG1ANJ101**	Metal Oxide, 1W, 100Ω, ± 5%
R856, 857		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R858		**ERD25FJ822**	Carbon, 1/4W, 8.2kΩ, ± 5%
R859		**ERD25TJ123**	Carbon, 1/4W, 12kΩ, ± 5%
R863, 864		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R865, 866		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R871, 872		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R873, 874		**ERD25FJ101**	Carbon, 1/4W, 100Ω, ± 5%
R875, 876		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R877, 878		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R879, 880		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R881, 882		**ERD25FJ682**	Carbon, 1/4W, 6.8kΩ, ± 5%
R883, 884		**ERD25FJ682**	Carbon, 1/4W, 6.8kΩ, ± 5%
R885		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R886		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R887		**ERD25FJ471**	Carbon, 1/4W, 470Ω, ± 5%
R888		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R889		**ERD25TJ683**	Carbon, 1/4W, 68kΩ, ± 5%
R890		**ERD25FJ680**	Carbon, 1/4W, 68Ω, ± 5%
R891		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R892		**ERD25FJ821**	Carbon, 1/4W, 820Ω, ± 5%
R893, 894		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R895, 896		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R897, 898		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R901		**ERD25FJ102**	Carbon, 1/4W, 1kΩ, ± 5%
R902		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R903, 904		**ERD25FJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R905		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R906		**ERD25FJ822**	Carbon, 1/4W, 8.2kΩ, ± 5%
R907		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R908		**ERD25TJ824**	Carbon, 1/4W, 820kΩ, ± 5%
R909		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R910		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
R911		**ERD25TJ683**	Carbon, 1/4W, 68kΩ, ± 5%
R912		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R913		**ERD25TJ153**	Carbon, 1/4W, 15kΩ, ± 5%
R914		**ERD25FJ103**	Carbon, 1/4W, 10kΩ, ± 5%
R915		**ERD25TJ223**	Carbon, 1/4W, 22kΩ, ± 5%
R916, 917		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R918		**ERD25TJ104**	Carbon, 1/4W, 100kΩ, ± 5%
R919		**ERD25FJ332**	Carbon, 1/4W, 3.3kΩ, ± 5%
R919 [PC (K)] only	Ⓚ	**ERD25FJ222**	Carbon, 1/4W, 2.2kΩ, ± 5%
R920		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R922		**ERD25FJ221**	Carbon, 1/4W, 220Ω, ± 5%
R923		**ERD25FJ331**	Carbon, 1/4W, 330Ω, ± 5%
R924		**ERD25FJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R925		**ERD25FJ100**	Carbon, 1/4W, 10Ω, ± 5%
R950		**ERD25FJ561**	Carbon, 1/4W, 560Ω, ± 5%
R1043		**ERD25TJ154**	Carbon, 1/4W, 150Ω, ± 5%
R1045, 1046		**ERD25TJ683**	Carbon, 1/4W, 68kΩ, ± 5%
R1047		**ERD25TJ333**	Carbon, 1/4W, 33kΩ, ± 5%
R1048		**ERD25TJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R1049		**ERD25TJ154**	Carbon, 1/4W, 150kΩ, ± 5%
R1050		**ERD25FJ562**	Carbon, 1/4W, 5.6kΩ, ± 5%
R1052		**ERD25TJ273**	Carbon, 1/4W, 27kΩ, ± 5%
CAPACITORS			
C1		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C2		ECCD1H010CC	Ceramic, 50V, 1pF, ±0.25pF
C3		ECCD1H040CC	Ceramic, 50V, 4pF, ±0.25pF
C4, 5		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C6		ECCD1H030CC	Ceramic, 50V, 3pF, ±0.25pF
C7		ECGN5R22K	Ceramic, 500V, 0.22pF, ± 10%
C8		ECCD1H040CC	Ceramic, 50V, 4pF, ±0.25pF
C9		ECCD1H050CC	Ceramic, 50V, 5pF, ±0.25pF
C10		ECCD1H040CC	Ceramic, 50V, 4pF, ±0.25pF
C11		ECCD1H181K	Ceramic, 50V, 180pF, ± 10%
C12		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C13		ECCD1H040CC	Ceramic, 50V, 4pF, ±0.25pF
C14		ECCD1H060CC	Ceramic, 50V, 6pF, ±0.25pF
C15		ECCD1H220KC	Ceramic, 50V, 22pF, ± 10%
C16		ECCD1H070DC	Ceramic, 50V, 7pF, ± 0.5pF
C17		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C18		ECCD1H060CC	Ceramic, 50V, 6pF, ±0.25pF
C19		ECCD1H020CC	Ceramic, 50V, 2pF, ±0.25pF
C20		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C21		ECCD1H020CC	Ceramic, 50V, 2pF, ±0.25pF

Ref. No.		Part No.	Part Name & Description
C22		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C23		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C24		**ECEA1HS100**	Electrolytic, 16V, 10μF
C25, 26		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C27, 28		ECKD1H102MD	Ceramic, 50V, 0.001μF, ± 20%
C29		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C101, 102		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C107		ECKD1H102ZF	Ceramic, 50V, 0.001μF, $^{+80}_{-20}$%
C108, 109		ECKD1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$%
C110, 111		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C112		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C113		ECCD1H101K	Ceramic, 50V, 100pF, ± 10%
C114		**ECEA50ZR47**	Electrolytic, 50V, 0.47μF
C115		ECCD1H820K	Ceramic, 50V, 82pF, ± 10%
C116		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C117		**ECEA1HS100**	Electrolytic, 16V, 10μF
C118		ECKD1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$%
C119, 120		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C121		**ECEA50ZR47**	Electrolytic, 50V, 0.47μF
C122, 123		**ECEA50Z1**	Electrolytic, 50V, 1μF
C124		**ECEA1HS100**	Electrolytic, 16V, 10μF
C125		**ECEA50Z3R3**	Electrolytic, 50V, 3.3μF
C201		ECKD1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$%
C202		ECQM1H473JZ	Polyester, 50V, 0.047μF, ± 10%
C204		ECQP1471JZ	Polypropylene, 100V, 470pF, ± 5%
C205		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C206		ECKD1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$%
C207		**ECEA1AS470**	Electrolytic, 6.3V, 47μF
C208, 209		**ECEA1HS100**	Electrolytic, 16V, 10μF
C210		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C212		ECCD1H120KC	Ceramic, 50V, 12pF, ± 10%
C213		ECKD1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$%
C214		ECQM1H103JZ	Polyester, 50V, 0.01μF, ± 10%
C215		**ECEA50Z1**	Electrolytic, 50V, 1μF
C217, 218		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C301		**ECEA50M4R7R**	Electrolytic, 50V, 4.7μF,
C302		**ECEA1CS471**	Electrolytic, 16V, 470μF
C303, 304		**ECEA1AS470**	Electrolytic, 10V, 47μF
C305, 306		ECQM1H152JZ	Polyester, 50V, 0.0015μF, ± 5%
C307, 308		**ECEA50Z3R3**	Electrolytic, 50V, 3.3μF
C309, 310		ECQM1H182JZ	Polyester, 50V, 0.0018μF, ± 10%
C311		**ECEA50Z1**	Electrolytic, 50V, 1μF
C312		ECQM1H223JZ	Polyester, 50V, 0.022μF, ± 10%
C313		**ECEA50ZR47**	Electrolytic, 50V, 0.47μF
C314		**ECEA50Z1**	Electrolytic, 50V, 1μF
C315		**ECEA50Z3R3**	Electrolytic, 50V, 3.3μF
C316		ECQP1471JZ	Polypropylene, 100V, 470pF, ± 5%
C317		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C318		ECQM1H473JZ	Polyester, 50V, 0.047μF, ± 10%
C319		ECCD1H101K	Ceramic, 50V, 100pF, ± 10%
C401, 402		ECCD1H820K	Ceramic, 50V, 82pF, ± 10%
C403, 404		ECKD1H821KB	Ceramic, 50V, 820pF, ± 10%
C405, 406		**ECEA1AS331**	Electrolytic, 10V, 330μF
C407, 408		ECQP1473GZ	Polypropylene, 100V, 0.047μF, ± 2%
C409, 410		ECQP1103GZ	Polypropylene, 100V, 0.01μF, ± 2%
C411, 412		ECQM1H332JZ	Polyester, 50V, 0.0033μF, ± 5%
C413, 414	⚠	**ECEA1EN3R3S**	Non-Polar Electrolytic, 25V, 3.3μF
C415, 416		ECQM1H473JZ	Polyester, 50V, 0.047μF, ± 5%
C417		**ECEA25Z4R7**	Electrolytic, 25V, 4.7μF
C418		**ECEA1ES101**	Electrolytic, 50V, 100μF
C421, 422		ECCD1H680K	Ceramic, 50V, 68pF, ± 10%
C501, 502		ECKD1H331KB	Ceramic, 50V, 330pF, ± 10%
C503, 504		ECQM1H563JZ	Polyester, 50V, 0.056μF, ± 10%
C505, 506		**ECEA50M1R**	Electrolytic, 50V, 1μF
C507, 508		ECCD1H390K	Ceramic, 50V, 39pF, ± 10%
C509, 510		ECCD1H220K	Ceramic, 50V, 22pF, ± 10%
C511, 512	⚠	**ECEA25N4R7**	Non-Polar Electrolytic, 25V, 4.7μF
C513, 514		ECQM1H332JZ	Polyester, 50V, 0.0033μF, ± 10%
C515, 516		ECQM1H333JZ	Polyester, 50V, 0.033μF, ± 10%
C517, 518		**ECEA50Z4R7**	Electrolytic, 50V, 4.7μF
C519, 520		ECQM1H183JZ	Polyester, 50V, 0.018μF, ± 10%
C521, 522		ECQM1H104JZ	Polyester, 50V, 0.1μF, ± 10%
C523, 524		ECQM1H274JZ	Polyester, 50V, 0.27μF, ± 10%
C525, 526		ECQM1H103JZ	Polyester, 50V, 0.01μF, ± 10%
C601, 602		ECCD1H560K	Ceramic, 50V, 56pF, ± 10%
C603, 604		ECCD2H100K	Ceramic, 500V, 10pF, ± 10%
C605, 606	⚠	ECEA1EN3R3S	Non-Polar Electrolytic, 25V, 3.3μF
C607, 608	⚠	ECEA1EN3R3S	Non-Polar Electrolytic, 25V, 3.3μF
C609, 610		ECQM1H152JZ	Polyester, 50V, 0.0015μF, ± 10%
C611, 612	⚠	ECEA0JN221S	Non-Polar Electrolytic, 6.3V, 220μF
C613, 614		ECCD2H070D	Ceramic, 500V, 7pF, ±0.15pF
C615, 616		**ECEA2AS101**	Electrolytic, 100V, 10μF

Ref. No.		Part No.	Part Name & Description
C617, 618		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C619, 620		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C621, 622		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C623, 624		**ECEA2AS100**	Electrolytic, 100V, 10μF
C625, 626		ECKD1H681KB	Ceramic, 50V, 680pF, ± 10%
C627, 628		ECKD1H681KB	Ceramic, 50V, 680pF, ± 10%
C629, 630		ECQM1H473JZ	Polyester, 50V, 0.047μF, ± 10%
C631, 632		ECCD1H221K	Ceramic, 50V, 220pF, ± 10%
C633, 634		ECCD2H070D	Ceramic, 500V, 7pF, ±0.25pF
C701, 702		ECET71V153X	Electrolytic, 71V, 15000μF
C703, 704		**ECEA1VS471**	Electrolytic, 35V, 470μF
C705, 706		**ECEA1ES101**	Electrolytic, 25V, 100μF
C707, 708		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C709, 710		**ECEA1ES101**	Electrolytic, 25V, 100μF
C711		ECKD2H103PE	Ceramic, 500V, 0.01μF, $^{+100}_{-0}$%
C712		**ECEA2AS221**	Electrolytic, 100V, 220μF
C713		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C714		ECKD2H103PE	Ceramic, 500V, 0.01μF, $^{+100}_{-0}$%
C715		**ECEA2AS101**	Electrolytic, 100V, 100μF
C717		ECKD2H103PE	Ceramic, 500V, 0.01μF, $^{+100}_{-0}$%
C718		**ECEA1VS471**	Electrolytic, 35V, 470μF
C719		**ECEA1VS102**	Electrolytic, 35V, 1000μF
C720		**ECEA1ES101**	Electrolytic, 25V, 100μF
C721, 722		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C723		**ECEA1AS102**	Electrolytic, 10V, 1000μF
C724		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C725		**ECEA1CS102**	Electrolytic, 16V, 1000μF
C726		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C727		**ECEA1AS470**	Electrolytic, 10V, 47μF
C728, 729		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C730, 731		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C732, 733		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C734		**ECEA1AS101**	Electrolytic, 10V, 100μF
C735		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C736		**ECEA1AS472**	Electrolytic, 10V, 4700μF
C737		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C728		**ECEA50Z1**	Electrolytic, 50V, 1μF
C739		**ECEA1CS330**	Electrolytic, 16V, 33μF
C740		**ECEA0JS471**	Electrolytic, 6.3V, 470μF
C742		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C743		**ECEA1VS330**	Electrolytic, 35V, 33μF
C744		**ECEA25Z4R7**	Electrolytic, 25V, 4.7μF
C745		**ECEA1HS100**	Electrolytic, 50V, 10μF
C801, 802		**ECEA50ZR47**	Electrolytic, 50V, 0.47μF
C803, 804		ECQM1H183JZ	Polyester, 50V, 0.018μF, ± 5%
C805, 806		ECQM1H563JZ	Polyester, 50V, 0.056μF, ± 5%

Ref. No.		Part No.	Part Name & Description
C807, 808		ECQM1H472JZ	Polyester, 50V, 0.0047μF, ± 5%
C809, 810		**ECEA50Z3R3**	Electrolytic, 50V, 3.3μF
C811, 812		**ECEA50Z1**	Electrolytic, 50V, 1μF
C813, 814	⚠	ECEA1CN100SE	Non-Polar Electrolytic, 16V, 10μF
C815		**ECEA50ZR1**	Electrolytic, 50V, 0.1μF
C816		ECKD1H102KB	Ceramic, 50V, 0.001μF, ± 10%
C817, 818		**ECEA1AS470**	Electrolytic, 10V, 47μF
C819, 820		**ECEA1AS470**	Electrolytic, 10V, 47μF
C821, 822		**ECEA50Z3R3**	Electrolytic, 50V, 3.3μF
C824		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C871, 872		**ECEA25Z4R7**	Electrolytic, 25V, 4.7μF
C873, 874		**ECEA25Z4R7**	Electrolytic, 25V, 4.7μF
C875, 876		**ECEA1AS470**	Electrolytic, 10V, 47μF
C877		**ECEA1AS470**	Electrolytic, 10V, 47μF
C878, 879		**ECEA1ES470**	Electrolytic, 25V, 47μF
C895, 896		ECQM1H102JZ	Polyester, 50V, 0.001μF, ± 10%
C901		ECKD1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$%
C902, 903		**ECEA0JS471**	Electrolytic, 6.3V, 470μF
C904		**ECEA0JS471**	Electrolytic, 6.3V, 470μF
C905		ECCD1H180KC	Ceramic, 50V, 18pF, $^{+80}_{-20}$%
C906		ECCD1H080DC	Ceramic, 50V, 8pF, ± 0.5pF
C907		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C908		**ECEA50M4R7R**	Electrolytic, 50V, 4.7μF
C909		**ECEA0JS471**	Electrolytic, 6.3V, 470μF
C910		ECQM1H223JZ	Polyester, 50V, 0.022μF, $^{+80}_{-20}$%
C911		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C912		ECCD1H060CC	Ceramic, 50V, 6pF, ±0.25pF
C913, 914		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C916		**ECEA1HS100**	Electrolytic, 50V, 10μF
C917		**ECEA50Z2R2**	Electrolytic, 50V, 2.2μF
C918		ECCD1H101K	Ceramic, 50V, 100pF, ± 10%
C919		ECKD1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$%
C920		**ECEA1ES470**	Electrolytic, 25V, 47μF
C921		**ECEA1VS471**	Electrolytic, 35V, 470μF
C1008	⚠	**ECEA1CN221S**	Non-Polar Electrolytic, 16V, 220μF
C1009		**ECEA1CS330**	Electrolytic, 16V, 33μF
C1012		**ECEA1HS100**	Electrolytic, 50V, 10μF
C1023		ECKD1H103ZF	Ceramic, 50V, 0.01μF, $^{+80}_{-20}$%
C1100		ECKD1H223ZF	Ceramic, 50V, 0.022μF, $^{+80}_{-20}$%
C1101	⚠	ECKDKC 103PF	Ceramic, 400VAC, 0.01μF, $^{+100}_{-0}$%
C1200	⚠	ECEA1CN100S	Non-Polar Electrolytic, 16V, 10μF

■ SCHEMATIC DIAGRAM Ⓐ

MODEL **SA-727**

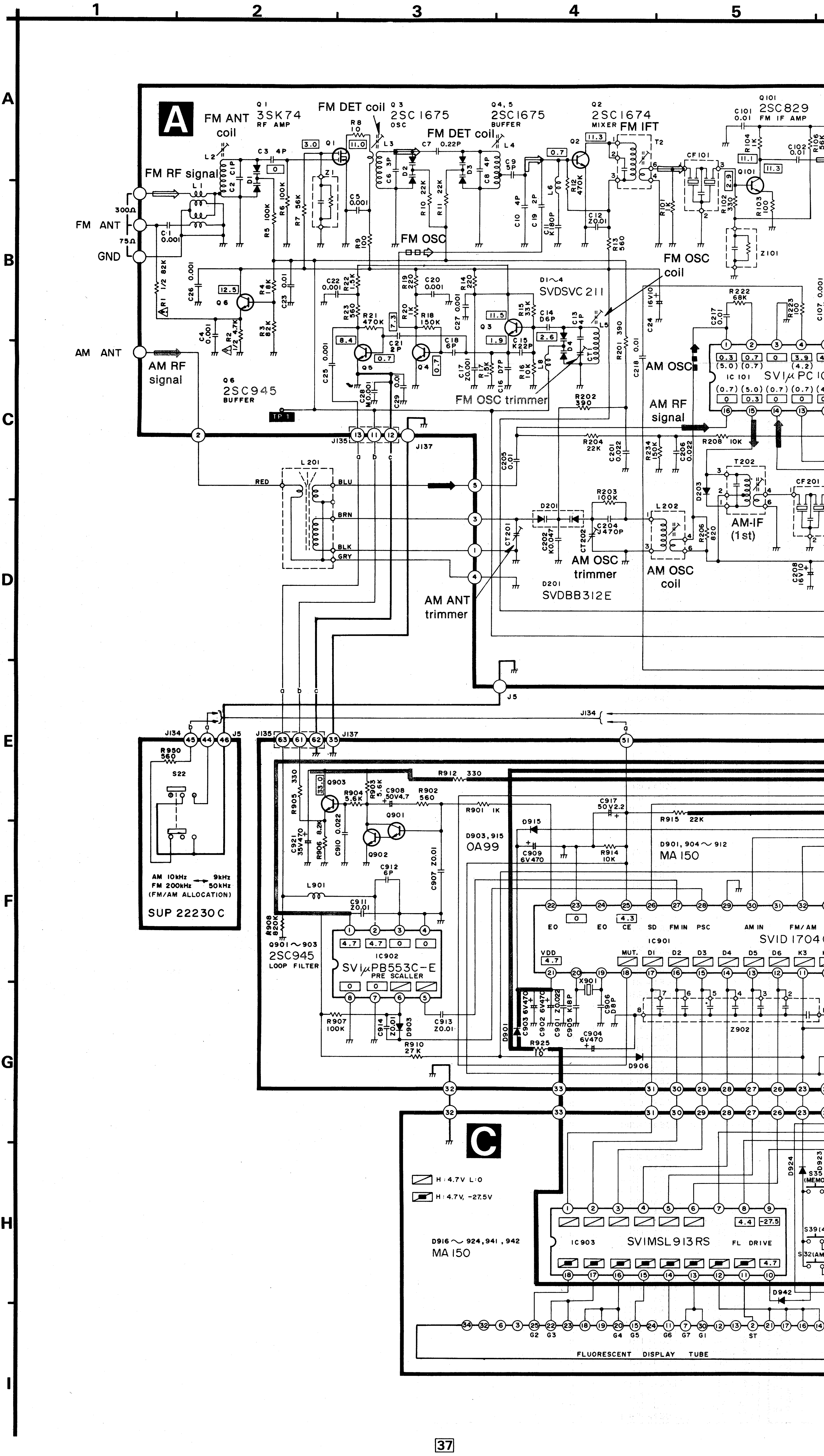
(This schematic diagram may be modified at any time with the development of new technology.)

Notes 1:

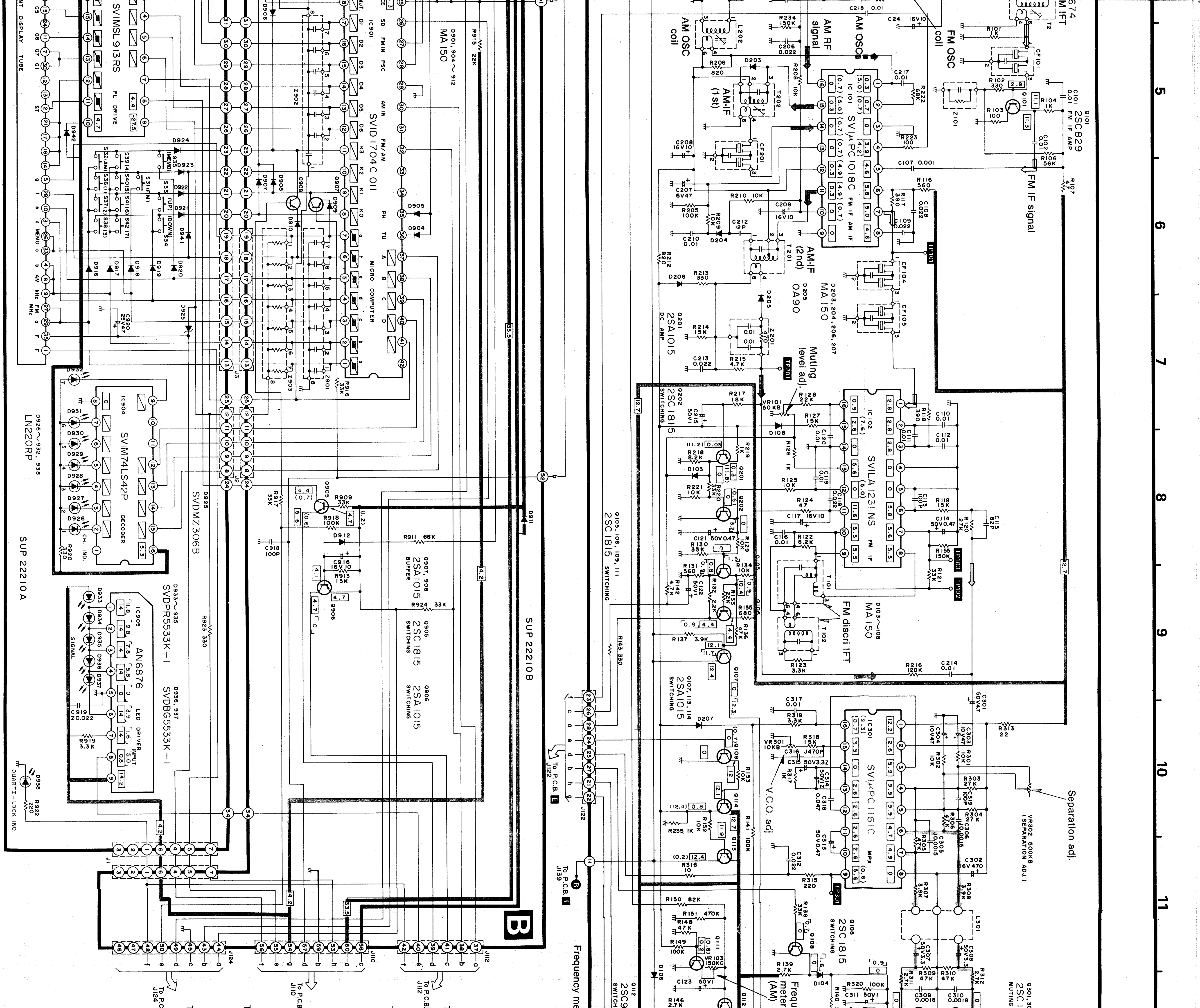
1. **S1-1 ~ S1-3** : Phono input selector switch in "**off**" position.
2. **S2-1 ~ S2-3** : Tuner input selector switch in "**on**" position.
3. **S3-1 ~ S3-3** : Aux input selector switch in "**off**" position.
4. **S5-1 ~ S5-4** : Tape recording/tape monitoring selector switch in "**source**" position.
   source ◄–► dubbing
5. **S6-1 ~ S6-6** : Tepe recording/tape monitoring selector switch in "**tape/dubbing 2 ▶ 1**" position.
   tape 1/dubbing 2 ▶ 1 ◄–► tape 2/dubbing 1 ▶ 2
6. **S7-1 ~ S7-2** : Tape recording/tape monitoring selector switch in "**source**" position.
   source ◄–► tape
7. **S8-1 ~ S8-2** : Audio muting switch in "**0 dB**" position.
   0 dB ◄–► –20 dB
8. **S9-1 ~ S9-2** : Loudness switch in "**off**" position.
   on ◄–► off
9. **S10-1 ~ S10-6** : Dimension control switch in "**off**" position.
   on ◄–► off
10. **S22** : FM/AM allocation selector switch in "**FM 0.2 MHz/AM 10 kHz**" position.
    FM 0.05 MHz/AM 9 kHz step ◄–► FM 0.2 MHz/AM 10 kHz step
11. **S31, 32** : Band selector switch.
    S31 – FM
    S32 – AM
12. **S33, 34** : Tuning switch
    S33 – up
    S34 – down
13. **S35** : Memory switch
14. **S36 ~ S42** : Preset-tuning switch.

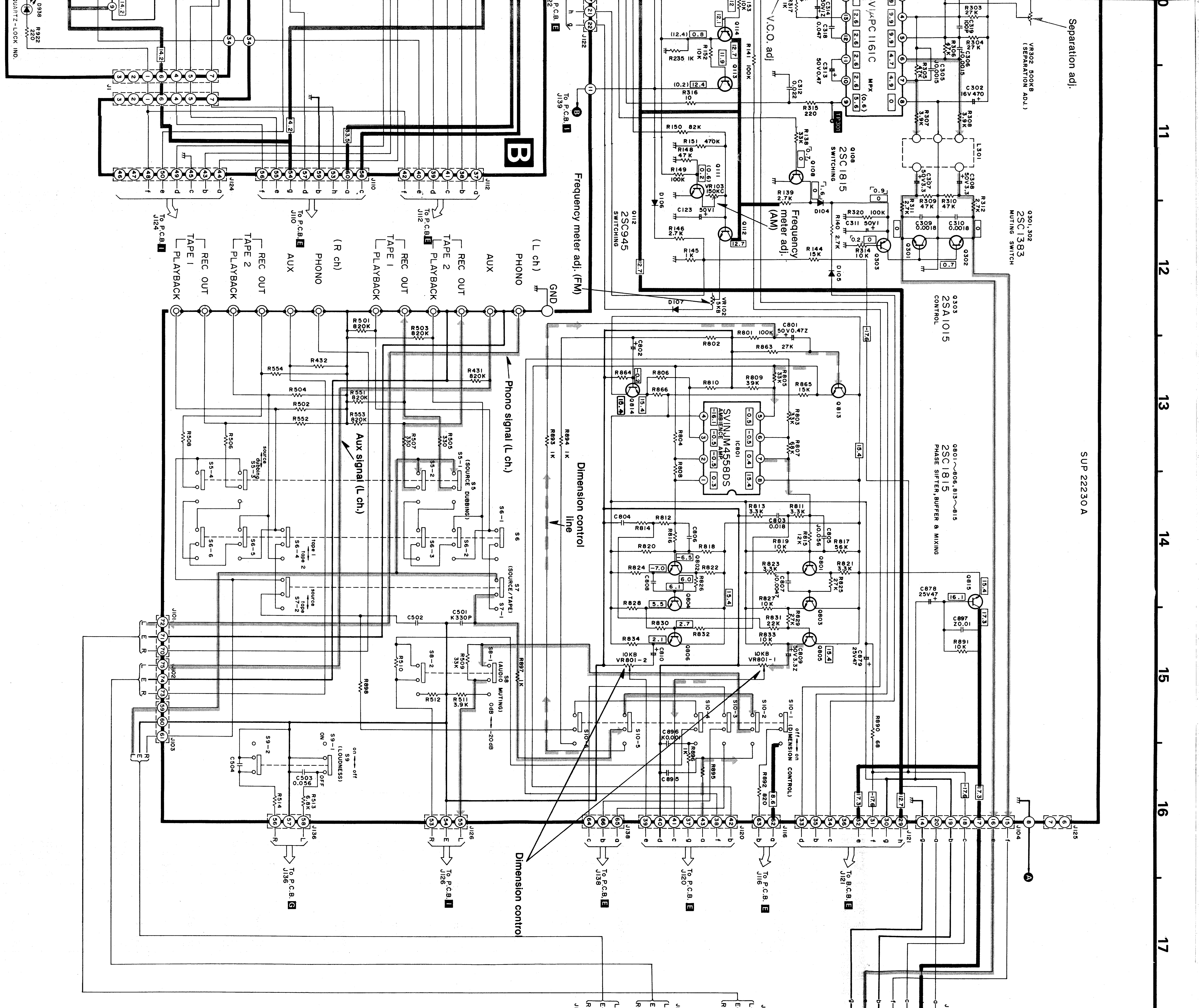
S36 – 1 ch.	S37 – 2 ch.
S38 – 3 ch.	S39 – 4 ch.
S40 – 5 ch.	S41 – 6 ch.
S42 – 7 ch.	

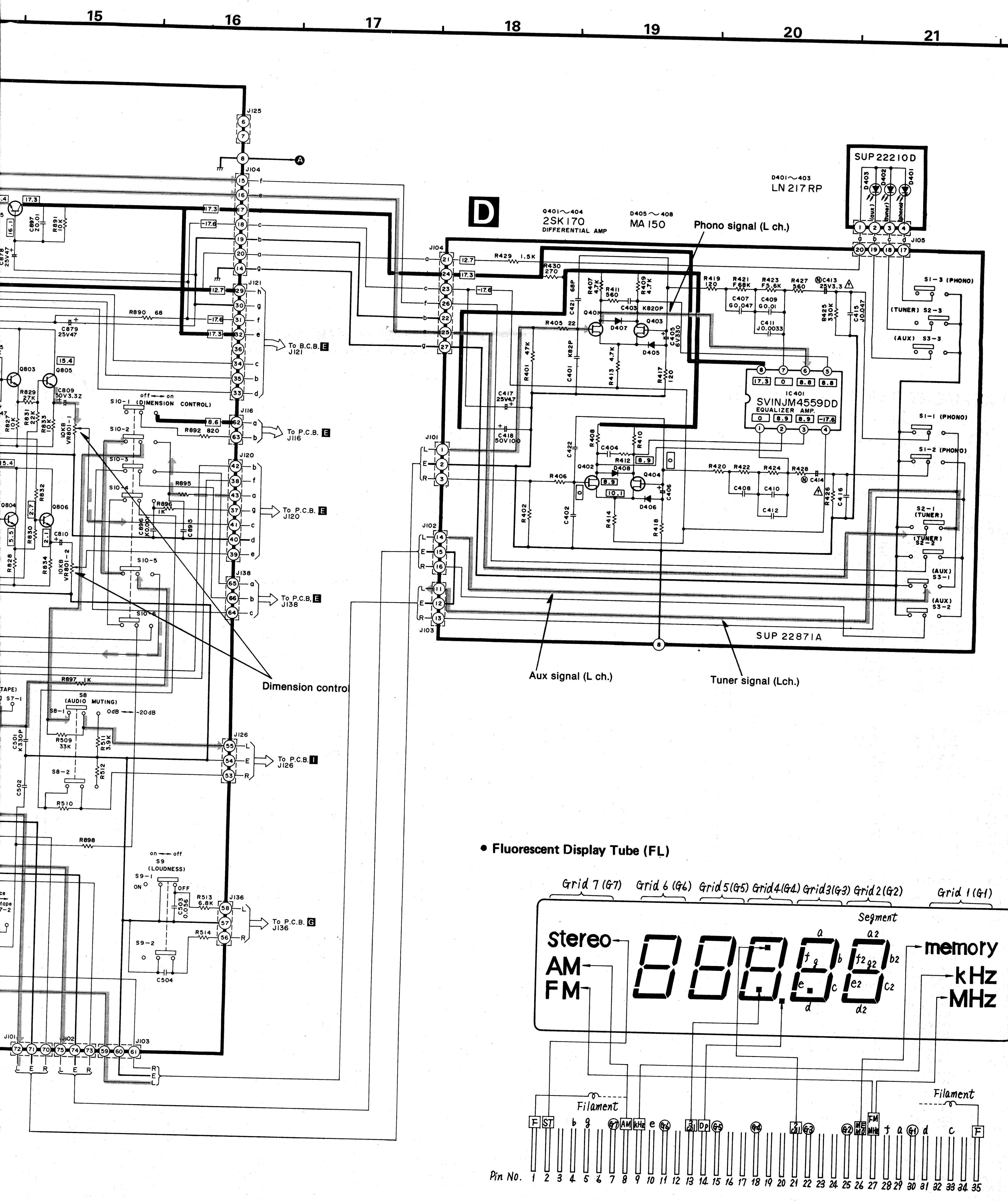
15. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard internal impedance of the DC circuit tester.
    Therefore, there may exist some errors in the voltage values, depending on th einternal impedance of the DC circuit tester.
    * Figures in ▭ stand for DC voltage in FM/AM signal reception mode.
    * Figures in < > stand for DC voltage in FM stereo signal reception mode.
      Figures in ⌐ ⌟ stand for DC voltage in FM (no signal) muting to on mode.
    * Figures in ( ) stand for DC voltage with the band selectors circuit set at AM.
    * ▱ marked terminal : 4.7V or 0V output.
    * ▰ marked terminal : 4.7V or –27.5V output.
16. Signal lines
    ⇨ FM signal
    ➡ Audio frequency signal ▪▪▪➡/➡ AM signal
    ▬ Positive (+B) voltage lines
17. Important safety notice
    Components identified by ⚠ mark have special characteristics important for safety.
    When replacing any of these components, use only manufacturer's specified parts.



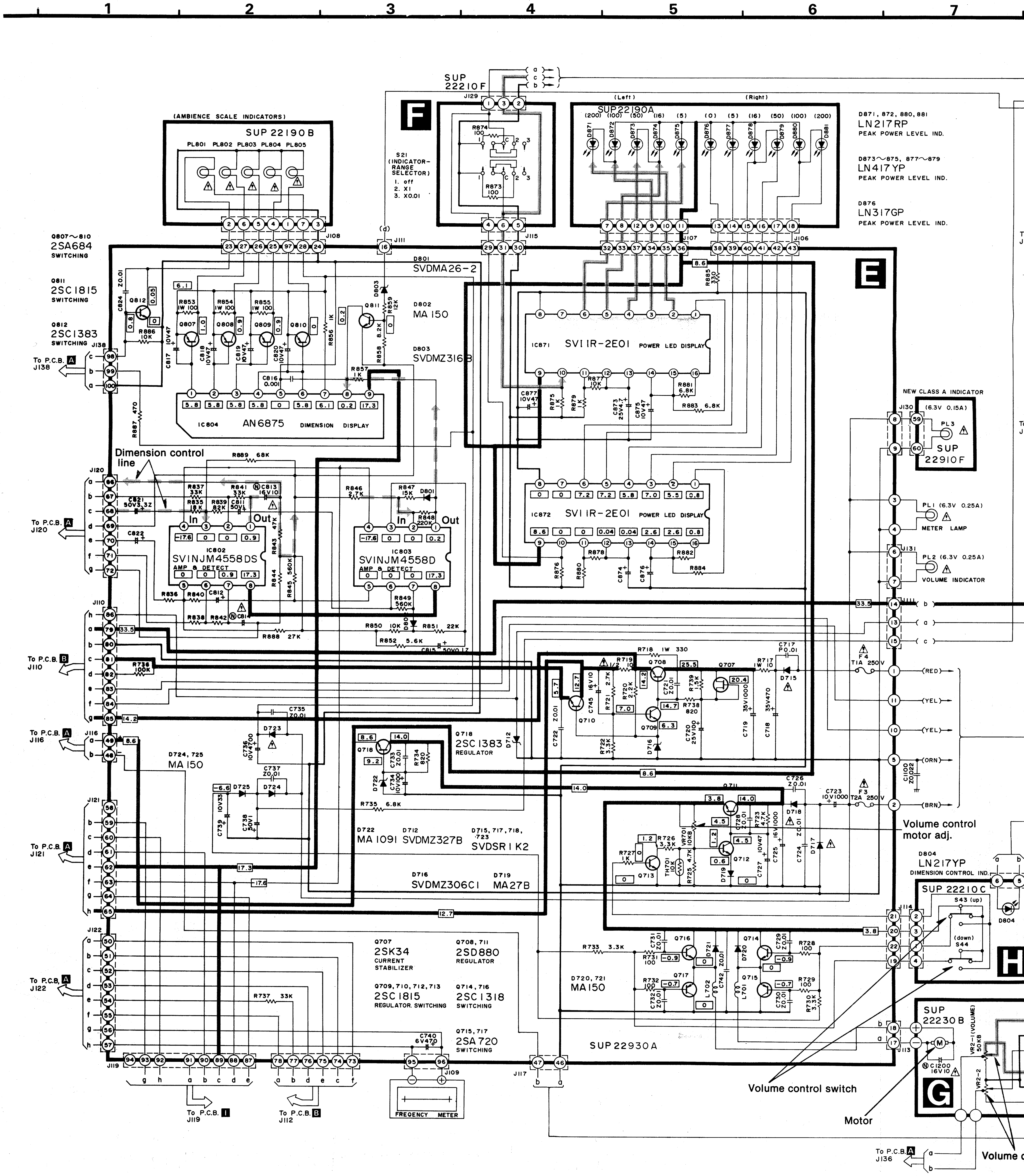
1
2
3
4
5
A
B
C
D
E
F
G
H
I
A
FM ANT coil
Q1 3SK74 RF AMP
FM DET coil
Q3 2SC1675 OSC
FM DET coil
Q4, 5 2SC1675 BUFFER
Q2 2SC1674 MIXER
FM IFT
Q101 2SC829 FM IF AMP
FM RF signal
300Ω
FM ANT
75Ω
GND
AM ANT
AM RF signal
FM OSC
D1~4 SVDSVC211
FM OSC coil
Z101
CF101
T2
Q6 2SC945 BUFFER
FM OSC trimmer
AM OSC
AM RF signal
IC101 SVIμPC
TP1
J135
J137
L201
RED
BLU
BRN
BLK
GRY
D201
CT201
CT202
AM OSC trimmer
D201 SVDBB312E
AM OSC coil
L202
T202
AM-IF (1st)
CF201
AM ANT trimmer
J5
J134
S22
R950 560
AM 10kHz → 9kHz
FM 200kHz → 50kHz
(FM/AM ALLOCATION)
SUP 22230C
Q903
Q901
Q902
L901
Q901~903 2SC945 LOOP FILTER
IC902 SVIμPB553C-E PRE SCALLER
D903, 915 OA99
D901, 904~912 MA150
IC901 SVID1704
X901
Z902
D906
D901
R925
C
H:4.7V L:0
H:4.7V, -27.5V
D916~924, 941, 942 MA150
IC903 SVIMSL913RS FL DRIVE
D924
D942
S35 (MEMO
S39
S32(AM
FLUORESCENT DISPLAY TUBE

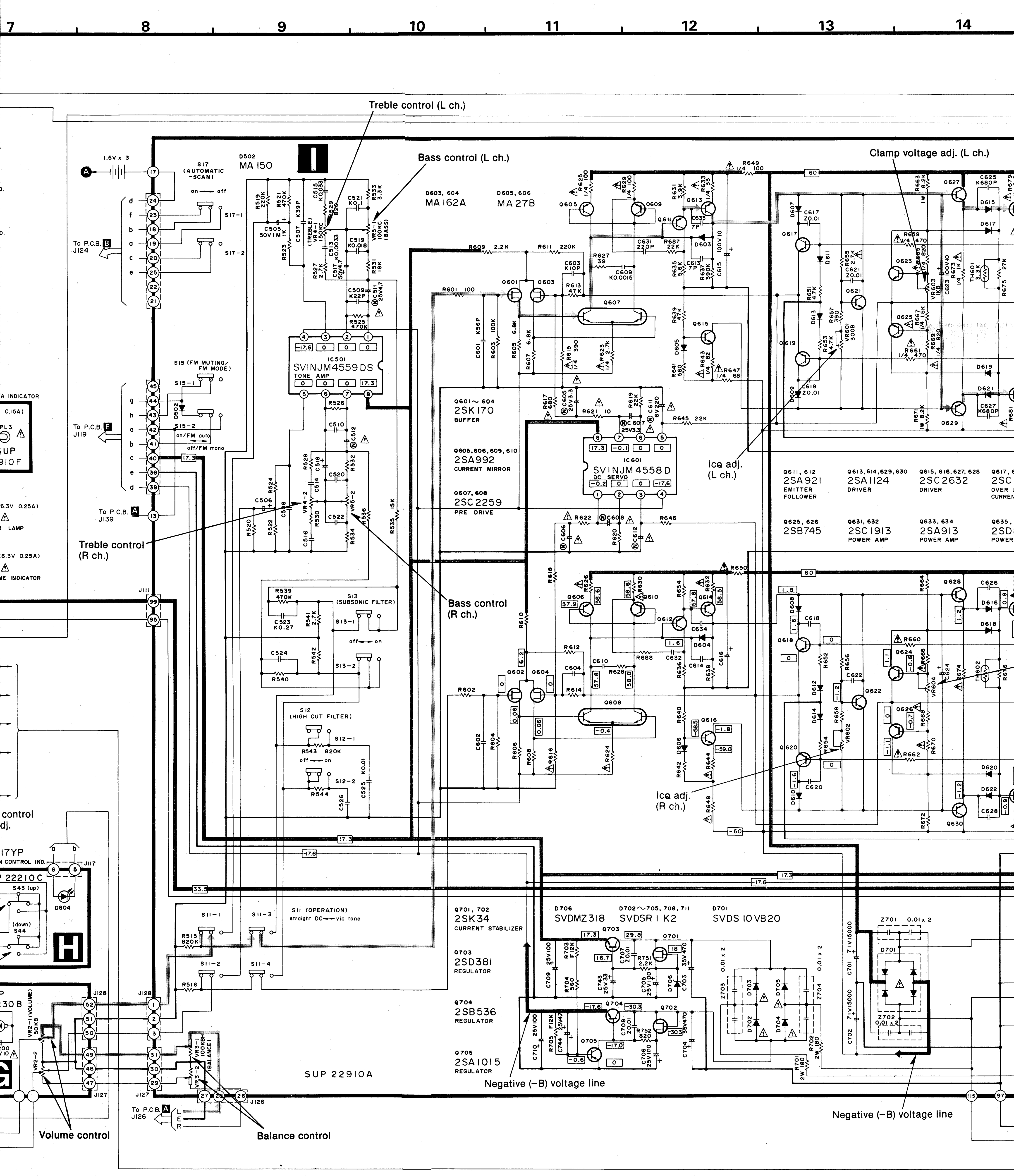

AM OSC coil
AM RF signal
AM OSC
FM OSC coil
FM IF signal
AM-IF (1st)
AM-IF (2nd)
IC 101 SVIμPC1018C FM IF AM IF
D203,204,206,207 MA150
D205 OA90
Q101 2SC829 FM IF AMP
Q201 2SA1015 DC AMP
Q202 2SC1815 SWITCHING
Muting level adj.
IC102 SVILA1231NS FM IF
FM discri IFT
D103~108 MA150
Q105,106,109,111 2SC1815 SWITCHING
Q107,113,114 2SA1015 SWITCHING
IC301 SVIμPC1161C MPX
V.C.O. adj
Separation adj.
VR302 500KB (SEPARATION ADJ.)
Q108 2SC1815 SWITCHING
Frequency meter (AM)
To P.C.B E J122
To P.C.B I J139
FL DRIVE
SVIMSL913RS
DISPLAY TUBE
IC901 SVID1704C011 MICRO COMPUTER
D901,904~912 MA150
IC904 SVIM74LS42P DECODER
D926~932,938 LN220RP
SVDMZ306B
IC905 AN6876 LED DRIVER
D933~935 SVDPR5533K-1
D936,937 SVDBG5533K-1
Q907,908 2SA1015 BUFFER
Q905 2SC1815 SWITCHING
Q906 2SA1015 SWITCHING
SUP 22210A
SUP 22210B
QUARTZ-LOCK IND.
SIGNAL
CH. IND.
B
J110
J112
J124
To P.C.B J110
To P.C.B J112
To P.C.B J124
5
6
7
8
9
10
11

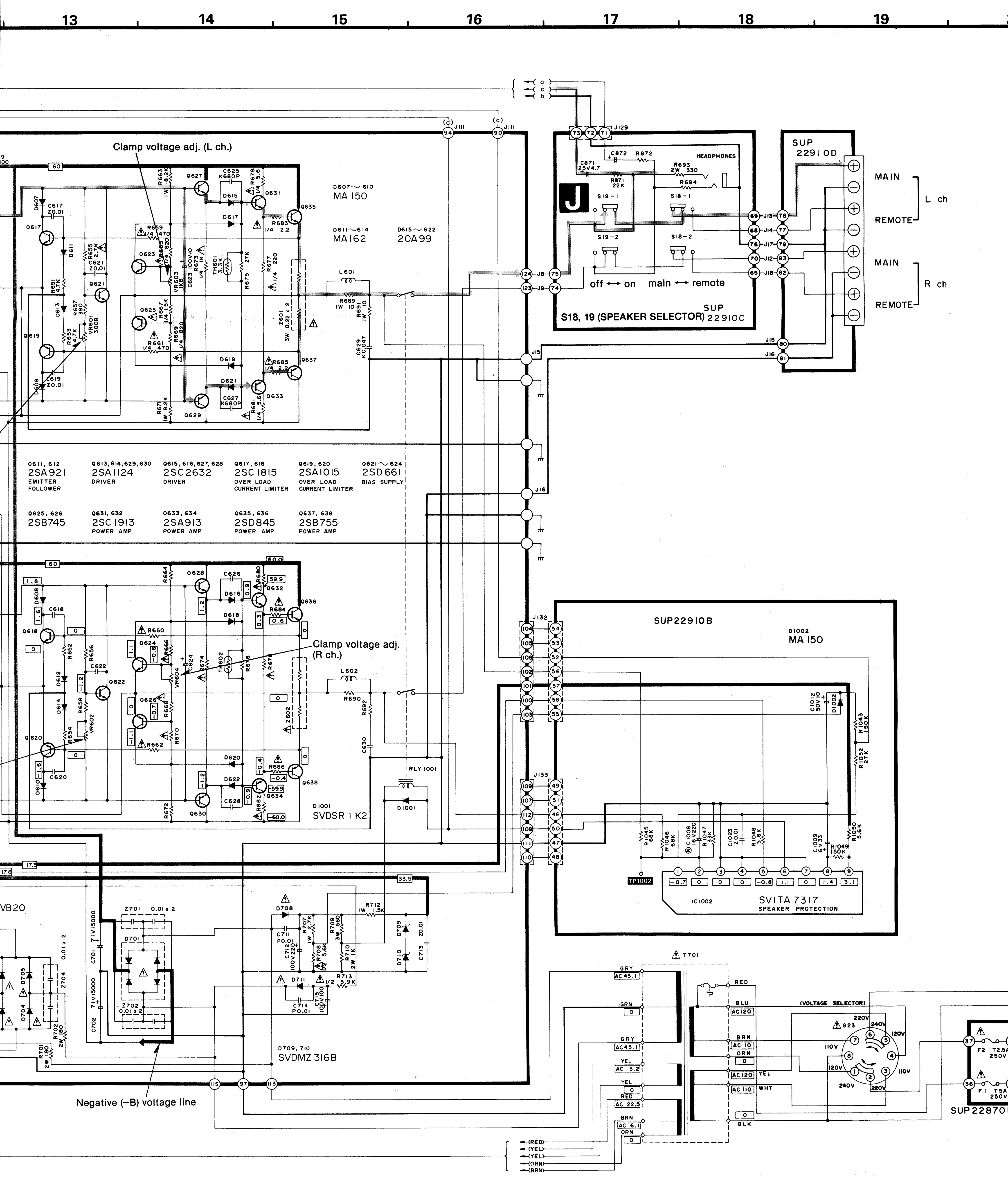

Separation adj.
VR302 500KB (SEPARATION ADJ.)
V.C.O. adj
µPC1161C MPX
Frequency meter adj. (FM)
Frequency meter adj. (AM)
Q108 2SC1815 SWITCHING
Q112 2SC945 SWITCHING
Q301, 302 2SC1383 MUTING SWITCH
Q303 2SA1015 CONTROL
Q801~806, 813~815 2SC1815 PHASE SIFTER, BUFFER & MIXING
IC801 SVI NJM4558DS AMBIENCE AMP
SUP 22230A
QUARTZ-LOCK IND.
(L ch) PHONO
AUX
REC OUT
TAPE 2 PLAYBACK
TAPE 1
(R ch)
PHONO
AUX
GND
Phono signal (L ch.)
Aux signal (L ch.)
Dimension control line
Dimension control
S5 (SOURCE DUBBING)
S6
S7 (SOURCE/TAPE)
S8 (AUDIO MUTING) 0dB — -20dB
S9 (LOUDNESS) on — off
S10-1 (DIMENSION CONTROL) off — on
VR801-1 10KB
VR801-2 10KB
To P.C.B. I J124
To P.C.B. E J110
To P.C.B. E J112
To P.C.B. I J139
To P.C.B. G J136
To P.C.B. I J126
To P.C.B. E J138
To P.C.B. E J120
To P.C.B. E J116
To B.C.B. J121
B
A
11
12
13
14
15
16
17

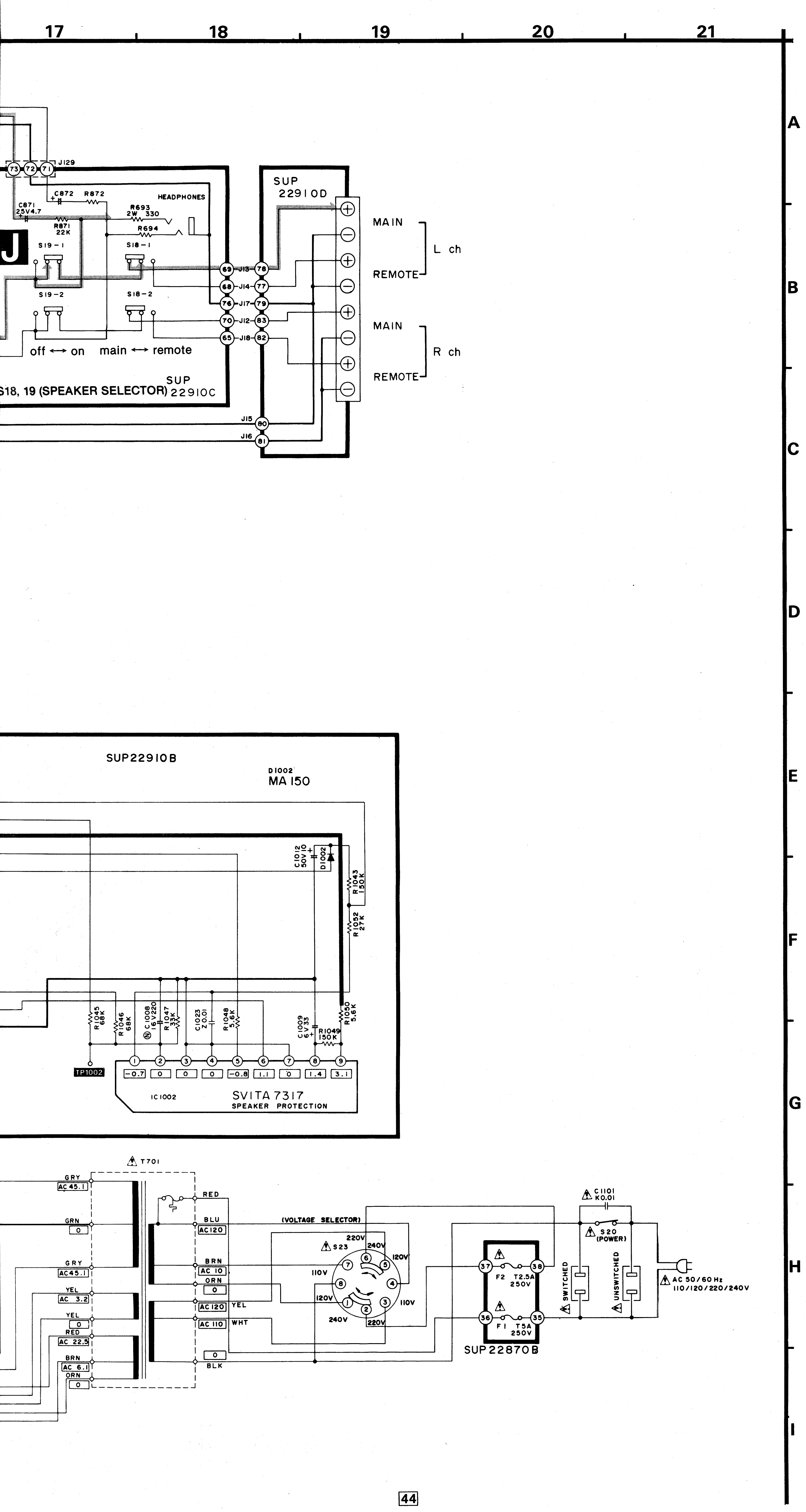

15
16
17
18
19
20
21
D
Q401～404
2SK170
DIFFERENTIAL AMP
D405～408
MA150
D401～403
LN217RP
SUP22210D
D403
D402
D401
(aux)
(tuner)
(phono)
J105
Phono signal (L ch.)
Aux signal (L ch.)
Tuner signal (Lch.)
SUP 22871A
IC401
SVINJM4559DD
EQUALIZER AMP.
R429 1.5K
R430 270
R419 120
R421 F68K
R423 F5.6K
R427 560
C413 25V3.3
R425 330K
C415 J0.047
C407 G0.047
C409 G0.01
C411 J0.0033
R407 4.7K
R409 4.7K
R411 560
C421 68P
C403 K820P
R405 22
Q401
Q403
D407
D405
C405 6V330
R401 47K
C401 K82P
R413 4.7K
R417 120
C417 25V4.7
C418 50V100
R408
R410
C404
R412
C422
Q402
Q404
D408
D406
R406
C406
R402
C402
R414
R418
R420
R422
R424
R428
C414
C408
C410
C412
R426
C416
S1-3 (PHONO)
(TUNER) S2-3
(AUX) S3-3
S1-1 (PHONO)
S1-2 (PHONO)
S2-1 (TUNER)
(TUNER) S2-2
(AUX) S3-1
(AUX) S3-2
J101
J102
J103
J104
J121
J116
J120
J138
J125
J126
J136
To B.C.B. E J121
To P.C.B. E J116
To P.C.B. E J120
To P.C.B. E J138
To P.C.B. I J126
To P.C.B. G J136
Dimension control
S10-1 (DIMENSION CONTROL)
off ←→ on
S10-2
S10-3
S10-4
S10-5
S10-6
R892 820
R895
R896 1K
C896 K0.001
C895
R890 68
C879 25V47
C878 25V47
C897 Z0.01
R891 10K
Q803
Q805
Q804
Q806
R829 27K
R831 22K
R833 10K
R827 10K
R830
R832
R828
R834
C809 50V3.3Z
C810
10KB VR801-1
10KB VR801-2
R897 1K
S7-1
S8 (AUDIO MUTING)
S8-1
S8-2
0dB ←→ -20dB
R509 33K
R511 3.9K
R512
R510
C501 K330P
C502
R898
S9 (LOUDNESS)
on ←→ off
S9-1
S9-2
ON
OFF
C503 0.056
R513 6.8K
R514
C504
Grid 7 (G7)
Grid 6 (G6)
Grid 5 (G5)
Grid 4 (G4)
Grid 3 (G3)
Grid 2 (G2)
Grid 1 (G1)
Segment
stereo
AM
FM
memory
kHz
MHz
Filament
Pin No.

• Fluorescent Display Tube (FL)


1
2
3
4
5
6
7
F
E
G
H
(AMBIENCE SCALE INDICATORS)
SUP 22190B
PL801 PL802 PL803 PL804 PL805
SUP 22210F
S21 (INDICATOR-RANGE SELECTOR)
1. off
2. X1
3. X0.01
SUP22190A
(Left)
(Right)
D871, 872, 880, 881
LN217RP
PEAK POWER LEVEL IND.
D873～875, 877～879
LN417YP
PEAK POWER LEVEL IND.
D876
LN317GP
PEAK POWER LEVEL IND.
Q807～810
2SA684
SWITCHING
Q811
2SC1815
SWITCHING
Q812
2SC1383
SWITCHING
IC804 AN6875 DIMENSION DISPLAY
D801
SVDMA26-2
D802
MA150
D803
SVDMZ316B
IC871 SV1IR-2E01 POWER LED DISPLAY
IC872 SV1IR-2E01 POWER LED DISPLAY
NEW CLASS A INDICATOR
(6.3V 0.15A)
PL3
SUP 22910F
PL1 (6.3V 0.25A)
METER LAMP
PL2 (6.3V 0.25A)
VOLUME INDICATOR
Dimension control line
IC802 SV1NJM4558DS AMP & DETECT
IC803 SV1NJM4558D AMP & DETECT
In
Out
To P.C.B. A J138
To P.C.B. A J120
To P.C.B. B J110
To P.C.B. A J116
To P.C.B. A J121
To P.C.B. A J122
To P.C.B. I J119
To P.C.B. B J112
To P.C.B. A J136
FREQENCY METER
D724, 725
MA150
Q718
2SC1383
REGULATOR
D722
MA1091
D712
SVDMZ327B
D715, 717, 718, 723
SVDSR1K2
D716
SVDMZ306C1
D719
MA27B
Q707
2SK34
CURRENT STABILIZER
Q708, 711
2SD880
REGULATOR
Q709, 710, 712, 713
2SC1815
REGULATOR SWITCHING
Q714, 716
2SC1318
SWITCHING
Q715, 717
2SA720
SWITCHING
D720, 721
MA150
SUP 22930A
F4 T1A 250V
F3 T2A 250V
(RED)
(YEL)
(YEL)
(ORN)
(BRN)
Volume control motor adj.
D804
LN217YP
DIMENSION CONTROL IND.
SUP 22210C
S43 (up)
(down) S44
SUP 22230B
VR2-1 (VOLUME) 50KB
VR2-2
C1200 16V10
Volume control switch
Motor
Volume c


7
8
9
10
11
12
13
14
Treble control (L ch.)
Bass control (L ch.)
Clamp voltage adj. (L ch.)
1.5V x 3
S17 (AUTOMATIC -SCAN)
on ← off
S17-1
S17-2
D502 MA 150
I
To P.C.B. B J124
S15 (FM MUTING/ FM MODE)
S15-1
S15-2
on/FM auto
off/FM mono
To P.C.B. E J119
To P.C.B. A J139
IC501 SVINJM4559DS TONE AMP
(TREBLE) VR4-1 150KC
VR5-1 100KC (BASS)
Treble control (R ch.)
Bass control (R ch.)
S13 (SUBSONIC FILTER)
S12 (HIGH CUT FILTER)
off ← on
D603, 604 MA 162A
D605, 606 MA 27B
Q601～604 2SK170 BUFFER
Q605,606,609,610 2SA992 CURRENT MIRROR
Q607, 608 2SC2259 PRE DRIVE
IC601 SVINJM4558D DC SERVO
Icq adj. (L ch.)
Icq adj. (R ch.)
Q611, 612 2SA921 EMITTER FOLLOWER
Q613,614,629,630 2SA1124 DRIVER
Q615,616,627,628 2SC2632 DRIVER
Q625, 626 2SB745
Q631, 632 2SC1913 POWER AMP
Q633, 634 2SA913 POWER AMP
S11 (OPERATION) straight DC ← via tone
S11-1
S11-2
S11-3
S11-4
Q701, 702 2SK34 CURRENT STABILIZER
Q703 2SD381 REGULATOR
Q704 2SB536 REGULATOR
Q705 2SA1015 REGULATOR
D706 SVDMZ318
D702～705, 708, 711 SVDSR1K2
D701 SVDS10VB20
Z701 0.01 x 2
Z702 0.01 x 2
Z703 0.01 x 2
Z704 0.01 x 2
Negative (−B) voltage line
Negative (−B) voltage line
SUP 22910A
VR2-1 (VOLUME) 50KB
VR2-2
VR3-1 100KBH (BALANCE)
VR3-2
Volume control
Balance control
To P.C.B. A J126
H
G
J127
J128
J126
J111
J117
D804
S43 (up)
S44 (down)


13
14
15
16
17
18
19
Clamp voltage adj. (L ch.)
Clamp voltage adj. (R ch.)
Negative (–B) voltage line
D607∼610 MA150
D611∼614 MA162
D615∼622 20A99
Q611, 612 2SA921 EMITTER FOLLOWER
Q613, 614, 629, 630 2SA1124 DRIVER
Q615, 616, 627, 628 2SC2632 DRIVER
Q617, 618 2SC1815 OVER LOAD CURRENT LIMITER
Q619, 620 2SA1015 OVER LOAD CURRENT LIMITER
Q621∼624 2SD661 BIAS SUPPLY
Q625, 626 2SB745
Q631, 632 2SC1913 POWER AMP
Q633, 634 2SA913 POWER AMP
Q635, 636 2SD845 POWER AMP
Q637, 638 2SB755 POWER AMP
D1001 SVDSR 1K2
D709, 710 SVDMZ 316B
RLY1001
S18, 19 (SPEAKER SELECTOR) SUP 22910C
off ⟷ on
main ⟷ remote
HEADPHONES
SUP 22910D
MAIN
REMOTE
L ch
R ch
SUP22910B
D1002 MA150
IC1002 SVITA7317 SPEAKER PROTECTION
TP1002
T701
(VOLTAGE SELECTOR)
S23
SUP22870
F1 T5A 250V
F2 T2.5A 250V
VB20
J129
J132
J133
J111
(RED)
(YEL)
(YEL)
(ORN)
(BRN)


17
18
19
20
21
A
B
C
D
E
F
G
H
I
J129
73
72
71
C872
R872
HEADPHONES
C871
25V4.7
R871
22K
R693
2W 330
R694
S19-1
S18-1
S19-2
S18-2
off ←→ on
main ←→ remote
S18, 19 (SPEAKER SELECTOR)
SUP
22910C
SUP
22910D
69 J13 78
68 J14 77
76 J17 79
70 J12 83
65 J18 82
J15 80
J16 81
MAIN
REMOTE
L ch
MAIN
REMOTE
R ch
SUP22910B
D1002
MA150
C1012
50V10
D1002
R1043
150K
R1052
27K
R1045
68K
R1046
68K
C1008
16V220
R1047
33K
C1023
Z0.01
R1048
5.6K
C1009
6V33
R1049
150K
R1050
5.6K
TP1002
-0.7
0
0
0
-0.8
1.1
0
1.4
3.1
IC1002
SVITA7317
SPEAKER PROTECTION
T701
GRY
AC45.1
GRN
0
GRY
AC45.1
YEL
AC 3.2
YEL
0
RED
AC 22.5
BRN
AC 6.1
ORN
0
RED
BLU
AC120
BRN
AC 10
ORN
0
AC120
YEL
AC 110
WHT
0
BLK
(VOLTAGE SELECTOR)
S23
220V
240V
120V
110V
120V
240V
220V
110V
37
38
F2 T2.5A
250V
36
35
F1 T5A
250V
SUP22870B
C1101
K0.01
S20
(POWER)
SWITCHED
UNSWITCHED
AC 50/60 Hz
110/120/220/240V

■ SCHEMATIC DIAGRAM Ⓑ

MODEL SA-727

(This schematic diagram may be modified at any time with the development of new technology.)

Notes 2:

1. **S11-1 ~ S11-4** : Operation selector switch in "**straight DC**" position.
   Straight DC←→via tone
2. **S12-1, S12-2** : High-cut filter switch in "**off**" position.
   off←→on
3. **S13-1, S13-2** : Subsonic filter switch in "**off**" position
   off←→on
4. **S15-1, S15-2** : FM muting/mode selector switch in "**on/FM auto**" position.
   on/FM auto←→off/FM mono
5. **S17-1, S17-2** : Automatic-scan switch in "**on**" position.
   on←→off
6. **S18-1 ~ S18-3** : Speaker switch in "**main**" position.
   main←→remote
7. **S19-1 ~ S19-3** : Speaker switch in "**on**" position.
   on←→off
8. **S20** : Power switch in "**on**" position.
9. **S21** : Voltage selector switch in "**240V**" position.
   110V←→120V←→240V←→220V
10. ▭ Indicated voltage values are the standard values for the DC electronic circuit tester (high-impedance) with chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
11. ➡ Phono signal lines of left channel
12. ▬ Positive (+B) voltage lines.
13. Important safety notice
    Components identified by ⚠ mark have special characteristics important for safety.
    When replacing any of these components, use only manufacturer's specified parts.

■ REPLACEMENT PARTS LIST...Cabinet & Chassis Parts

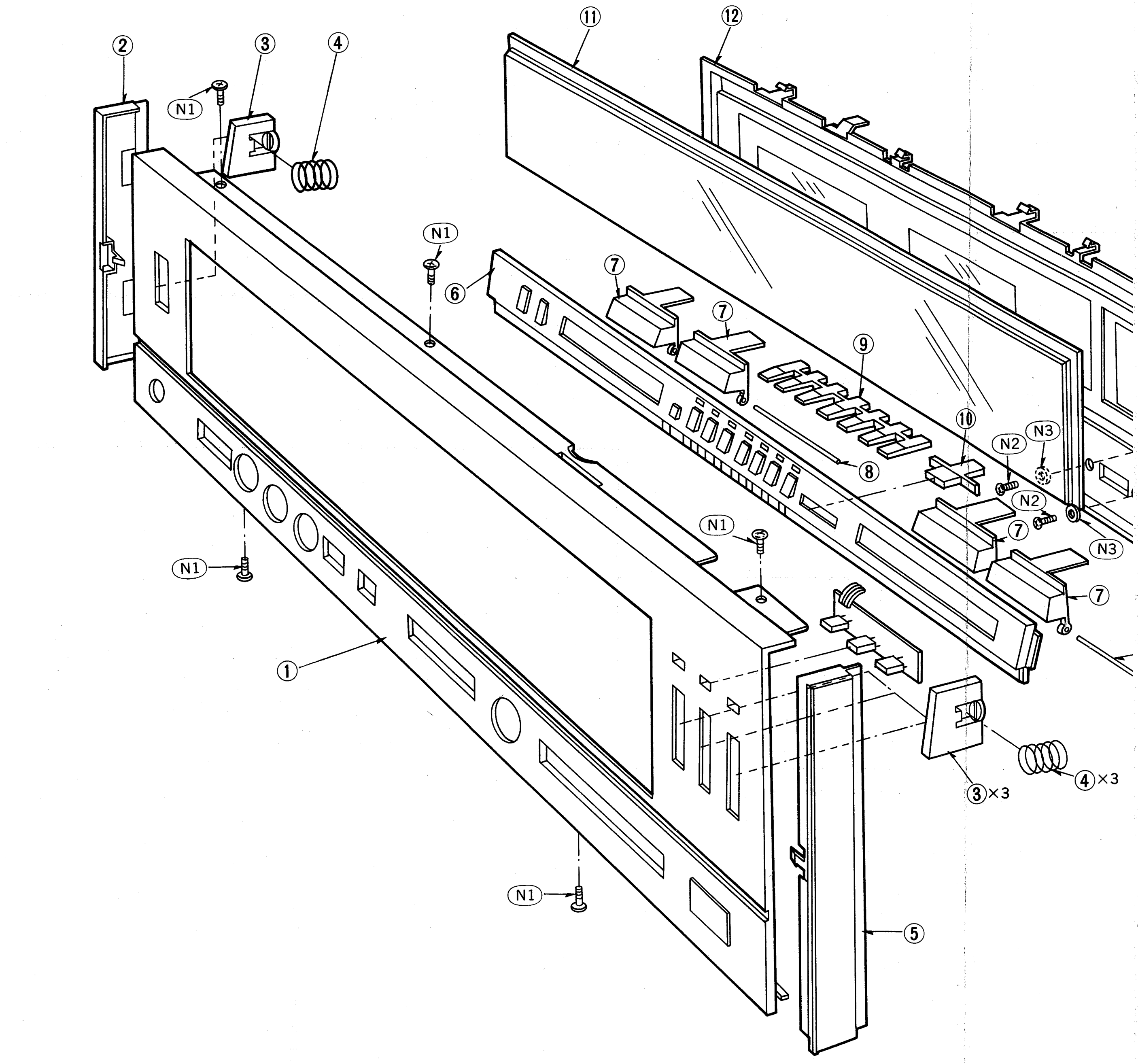
Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Ⓚ-marked parts are used for black type only, while ○-marked parts are for silver type only.
3. Parts other than Ⓚ and ○-marked are used for both black and silver types.
4. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.

Ref. No.		Part No.	Part Name & Description
CABINET and CHASSIS PARTS			
1	○	SGWA727P	Front Panel Ass'y
1 [PC] only	Ⓚ	SGWA727KP	Front Panel Ass'y (Black)
2	○	SGX7097	Ornament, Left Side
2 [PC] only	Ⓚ	SGX7097–1	Ornament, Left Side (Black)
3	○	SBC321–6	Button, Power, Input Selector
3 [PC] only	Ⓚ	SBC321–7	Button, Power, Input Selector (Black)
4		SUS163	Spring, Button
5	○	SGX7099	Ornament, Right Side
5 [PC] only	Ⓚ	SGX7099–1	Ornament, Right Side (Black)
6	○	SGXA727P	Ornament, Display Window
6 [PC] only	Ⓚ	SGXA727KP	Ornemant, Display Windown (Black)
7	○	SBC397–2	Button, Tuning, Volume
7 [PC] only	Ⓚ	SBC397–1	Button, Tuning, Volume
8		SUX25	Shaft, Button
9		SDU57	Guide, LED
10	○	SBD35	Knob, Power Display Switch
10 [PC] only	Ⓚ	SBD35–1	Knob, Power Display Switch
11		SGU229	Transparent Cover
12	○	SGXA727P1	Front Sub Panel Ass'y
12 [PC] only	Ⓚ	SGXA727KP1	Front Sub Panel Ass'y
13		SHR9551	Holder, Quartz Lock LED
14		SHR9549	Holder, Signal LED
15	○	SBC369–1	Button, Push Switch
15 [PC] only	Ⓚ	SBC369–2	Button, Push Switch
16		SBN1023	Knob, Volume
17	○	SDU59	Cover, New Class A Badge
17 [PC] only	Ⓚ	SDU59–1	Cover, New Class A Badge
18	○	SDE259	Filter, New Class A Badge
18 [PC] only	Ⓚ	SDE259–1	Filter, New Class A Badge
19		SMP305	Holder, New Class A Badge
20		XCJS6P21B–A1	Jack, Headphones
21		SMP301–1	Cover, Meter Lamp
22		SJT347	Holder, Fuse
23		SDU79	Filter, Dimension Panel
24		SHG433	Rubber, Dimension Panel
25		SDL39	Panel, Dimension
26		SDL41	Panel, Dimension
27		SDL43	Panel, Dimension
28		SDL45	Panel, Dimension
29		SDL47	Panel, Dimension
30		SGX7103	Case, Dimension Panel
31		SGX7101	Cover, Dimension Panel
32		SMN1753	Bracket, Variable Resistor
33		SJS2103	Socket, Lamp
34		SDG9001–2	Shaft, Variable Resistor
35		SMN1733–3	Bracket, Variable Resistor
36		SMN1735–2	Bracket, Variable Resistor
37		SUB61	Shaft, Volume Level Hinge
38		SDU45–1	Film, Volume Level
39		SHR9521	Hinge, Volume Level Film Lock
40		SHR5105	Sheet, Film Lock
41		SUW1801	Bracket, PCB
42		SMN1785	Bracket, Electrolytic Capacitor
43	○	SKCA828M	Cabinet Cover
43 [PC] only	Ⓚ	SKCA727KP	Cabinet Cover (Black)
44		SJF4813–1	Terminal Board, Speaker
45		SGP2730–1B	Rear Panel
46		SUW1803	Brakcet, PCB
47		SHR127	Bushing, AC Cord
48	⚠	**RJA52Z**	AC Cord
49	⚠	SJSA66–2	Socket, AC Outlet
50		SJB3005–1	Case, Battery
51		SJC9	Terminal, Battery Case
52		SJC7	Terminal, Battery Case
53		SHR5025–1	Stopper, Allocation Switch
54		SJF8017	Terminal Board, Antenna
55		SKU9230	Bottom Board
56		SKL231	Foot
SCREWS, WASHERS, and NUTS			
N1		XTBS3+8BFZ1	Screw, Tapping with Detent, ⊕ 3 x 8
N2		**XSN26+8BV**	Screw, ⊕ 2.6 x 8
N3		**XWA26BFZ**	Washer, Spring, φ2.6
N4		**XTB3+10BFZ**	Screw, Tapping, ⊕ 3 x 10
N5		**XWG3FZ**	Washer, Plain, φ3
N6		**XSN3+6S**	Screw, ⊕ 3 x 6
N7		**XWA3B**	Washer, Spring, φ3
N8		**XTB3+8BFZ**	Screw, Tapping, ⊕ 3 x 8
N9		**XNS12**	Nut, φ12
N10		SNE4021	Nut, Volume Control
N11		**XTB3+6BFZ**	Screw, Tapping, ⊕ 3 x 6
N12		**XTB3+10BFZ**	Screw, Tapping, ⊕ 3 x 10
N13		**XTB3+8BFZ**	Screw, Tapping, ⊕ 3 x 8
N14		**XTB4+8BFZ**	Screw, Tapping, ⊕ 4 x 8
N15		XTBS3+8BFZ1	Screw, Tapping with Detent, ⊕ 3 x 8
N16		**XWG3FZ**	Washer, Plain, φ3
N17		**XTS3+8B**	Screw, Tapping, ⊕ 3 x 8
N18	○	**XTB4+8BFN**	Screw, Tapping, ⊕ 4 x 8
N18 [PC] only	Ⓚ	**XTB4+8BFZ**	Screw, Tapping, ⊕ 4 x 8
N19	○	**XTB3+8BFN**	Screw, Tapping, ⊕ 3 x 8
N19 [PC] only	Ⓚ	XTBS3+8BFZ1	Screw, Tapping with Detent, ⊕ 3 x 8
N20		**XTB3+10BFZ**	Screw, Tapping, ⊕ 3 x 10
N21		XTBS3+8BFZ1	Screw, Tapping, with Detent, ⊕ 3 x 8
N22		**XTB3+8BFZ**	Screw, Tapping, ⊕ 3 x 8
N23		**XSN26+6BV**	Screw, ⊕ 2.6 x 6
N24		**XWA26BFZ**	Washer, Spring, φ2.6
N25		**XWG3**	Washer, Plain, φ3
N26		**XTN3+12BFZ**	Screw, Tapping, ⊕ 3 x 12
N27		**XTN3+8BFZ**	Screw, Tapping, ⊕ 3 x 8
N28		**XTB3+18BFN**	Screw, Tapping, ⊕ 3 x 18
N29		**XSN3+6BVS**	Screw, ⊕ 3 x 6
N30		**XWA3BFZ**	Washer, Spring, φ3
ACCESSORIES			
A1		SSA267	Cord, FM Indoor Antenna
A2	⚠	RJP120ZBS	Plug Adaptor, Power Source
A3 [PA, PE] only		SQF10891	Instructions Book, Printed Matter
A3 [PC] only		SQF10893	Instructions Book, Printed Matter
PACKING PARTS			
P1		SPP655	Polyethylene Bag
P2		SPS3325	Pad, Upper
P3		SPS3153	Pad, Left Side
P4		SPS3155	Pad, Right Side
P5		SPG3205	Carton Box
P6	Ⓚ	SGK1413	Label, Carton Box (Black)

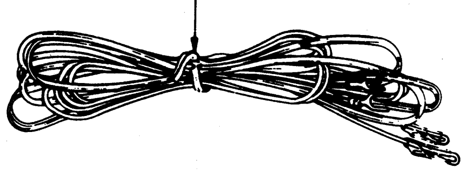
Areas

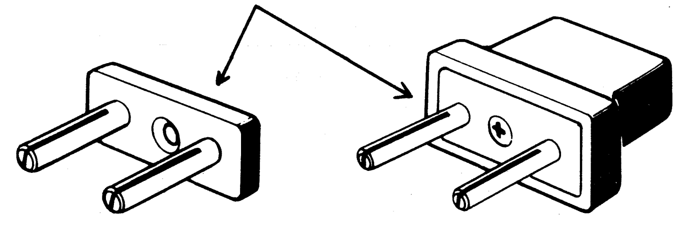
- * [PA] is available in fat East PX.
- * [PE] is available in European Military.
- * [PC] is available in European Audio Club.

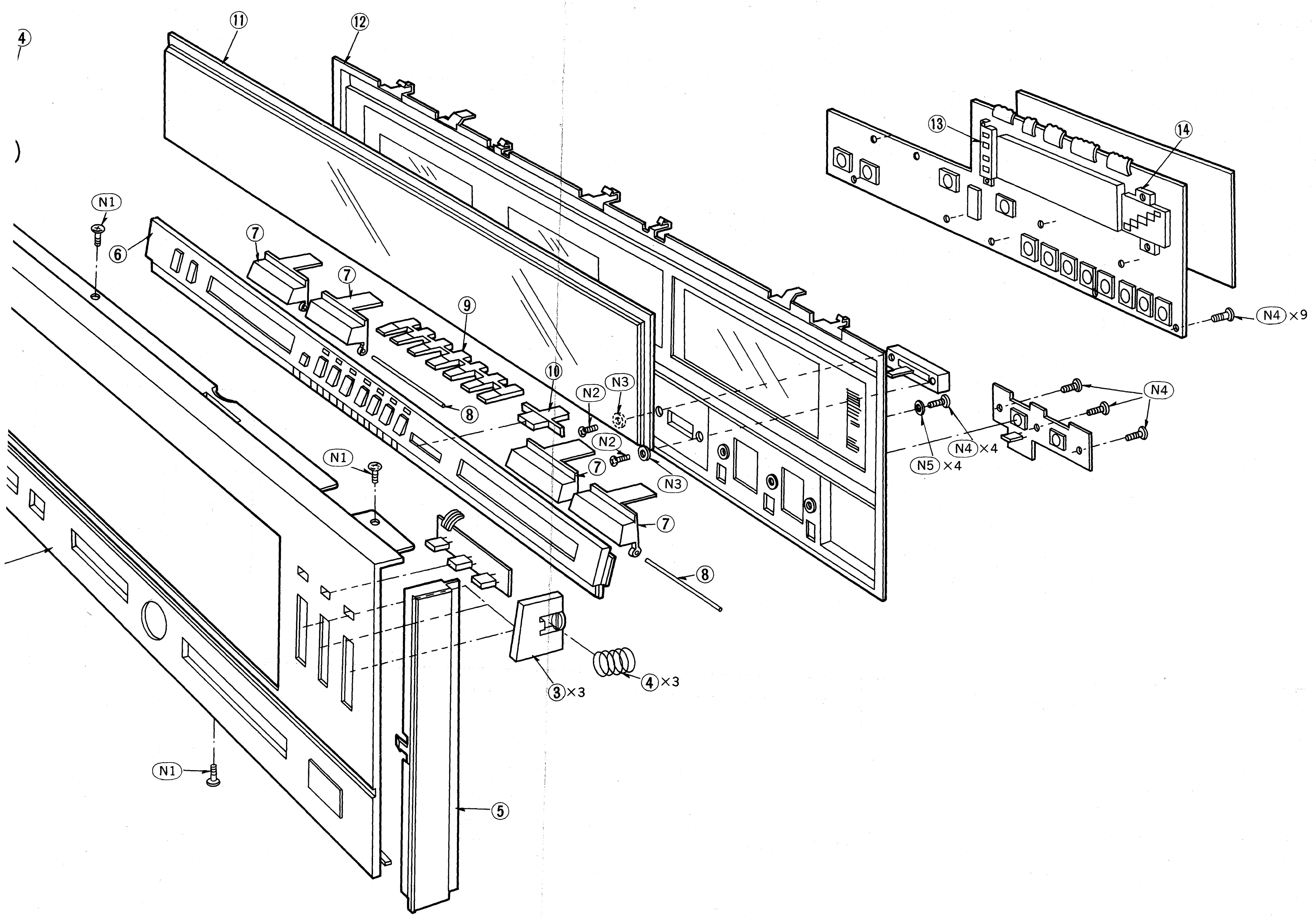
■ EXPLODED VIEWS

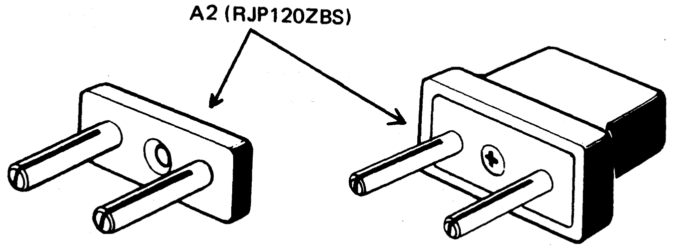


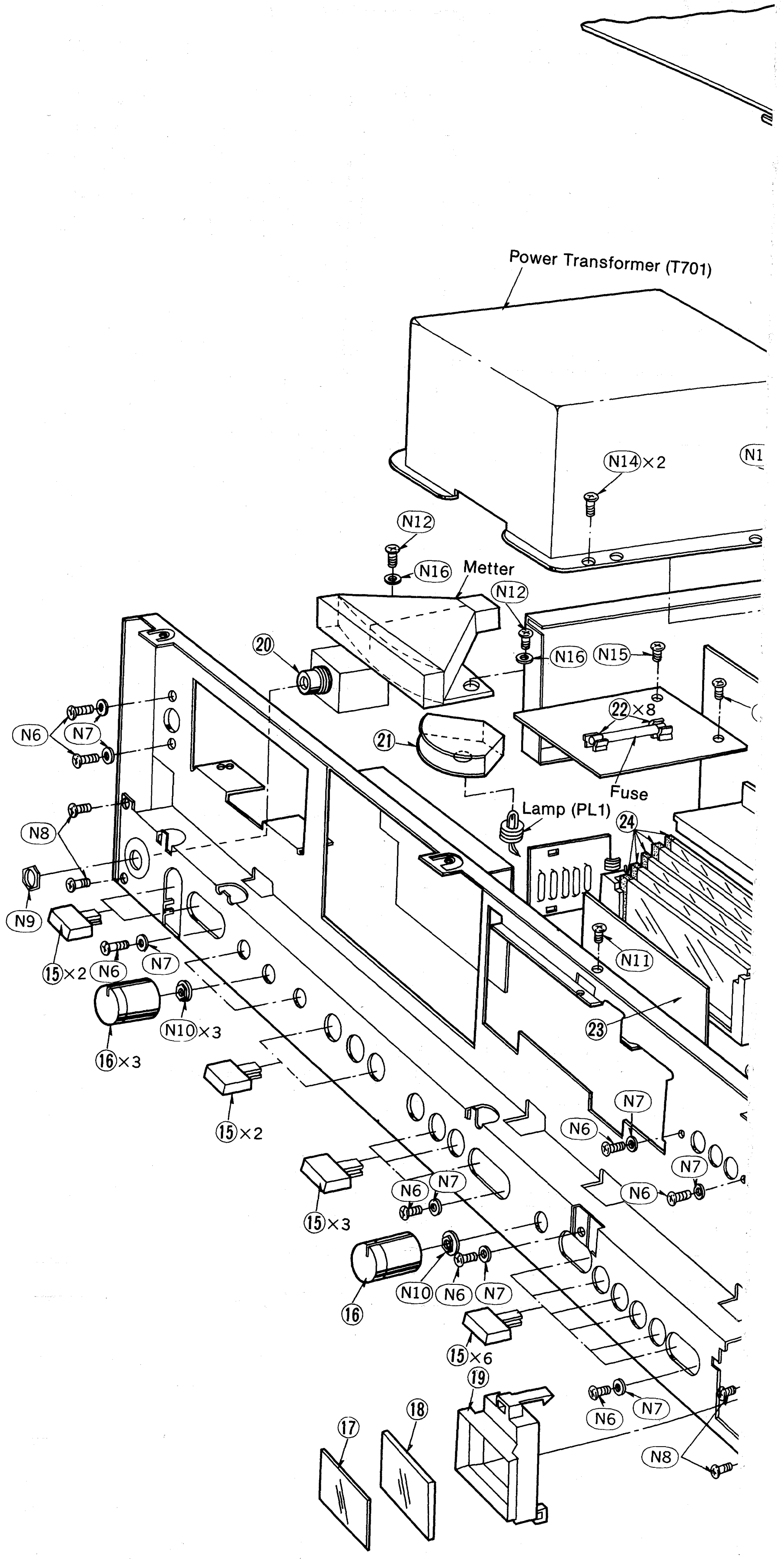
• Accessories

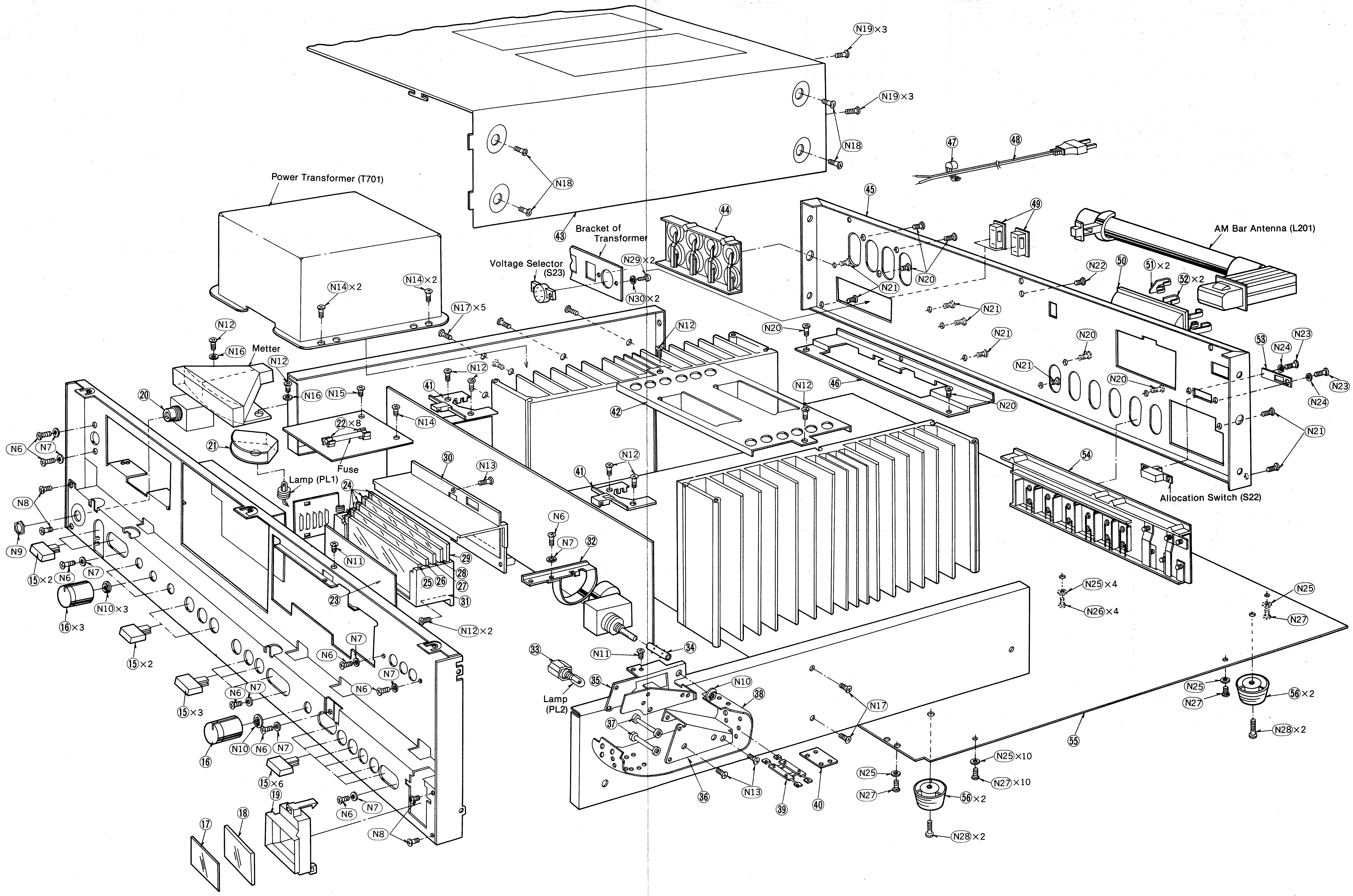

A1 (SSA267)


A2 (RJP120ZBS)


④
⑪
⑫
⑬
⑭
N4 ×9
N1
⑥
⑦
⑦
⑨
⑩
N3
N2
N2
⑧
⑦
N3
N4
N4 ×4
N5 ×4
N1
⑦
⑧
③×3
④×3
N1
⑤


A2 (RJP120ZBS)


Power Transformer (T701)
N14×2
N1
N12
N16
Metter
N12
N16
N15
⑳
㉑
㉒×8
Fuse
N6
N7
Lamp (PL1)
㉔
N8
N9
⑮×2
N6
N7
N11
⑯×3
N10×3
㉓
⑮×2
N7
N6
N7
N6
N7
N6
⑮×3
N10
N6
N7
⑯
⑮×6
⑲
N6
N7
⑰
⑱
N8


N19×3
N19×3
N18
N18
47
48
Power Transformer (T701)
43
Bracket of Transformer
Voltage Selector (S23)
N29×2
N30×2
44
45
49
AM Bar Antenna (L201)
N20
N21
N22
50
51×2
52×2
N21
N21
N20
N20
53
N24
N23
N23
N24
N21
N14×2
N14×2
N17×5
N12
N12
N16
Metter
N12
N16
N15
N12
N14
41
42
46
N20
N12
N20
20
21
22×8
Fuse
Lamp (PL1)
24
30
N13
N12
41
54
Allocation Switch (S22)
N6
N7
N8
N9
15×2
N6
N7
N10×3
16×3
15×2
N11
23
25
26
27
28
29
31
N12×2
N6
N7
32
N25×4
N26×4
N25
N27
N7
N6
N7
N6
33
N11
34
35
N10
38
Lamp (PL2)
37
N17
N25
N27
56×2
N28×2
55
N6
N7
15×3
16
N10
N6
N7
15×6
19
N6
N7
N8
17
18
36
N13
39
40
N25×10
N27×10
N25
N27
56×2
N28×2

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